

Duke Energy Carolinas, LLC – Executive Summary

A. Description

During the first quarter 2018 Duke Energy Carolinas Collaborative meeting, Duke Energy Carolinas, LLC (the “Company”) will provide an update on the performance of its energy efficiency and demand side management programs/pilots for the timeframe of January 2018 through December 2018. The Company’s product managers prepared reports on each program describing the offerings and detailing each program’s performance. This Executive Summary describes how the Company performed at an aggregate level during the full year of Vintage 2018 in comparison to as-filed information. Program-specific details are provided in the individual reports.

Program reports include:

Program	Category	Customer
Energy Assessments	EE	Residential
Energy Efficient Appliances and Devices	EE	Residential
Energy Efficiency Education Programs	EE	Residential
Residential – Smart \$aver Energy Efficiency Program (HVAC EE)	EE	Residential
Income Qualified Energy Efficiency and Weatherization Assistance	EE	Residential
My Home Energy Report	EE	Residential
Multi-Family Energy Efficiency	EE	Residential
Non-Residential Smart \$aver Prescriptive	EE	Non-residential
Non-Residential Smart \$aver Custom	EE	Non-residential
Non-Residential Smart \$aver Custom Assessment	EE	Non-residential
Non-Residential Smart \$aver Performance Incentive	EE	Non-residential
Small Business Energy Saver	EE	Non-residential
EnergyWise for Business	EE/DSM	Non-residential
Power Manager	DSM	Residential
PowerShare	DSM	Non-residential

Audience

All retail Duke Energy Carolinas customers who have not opted out.

B & C. Impacts, Participants and Expenses

The tables below include actual results for the full year of Vintage 2018 in comparison to as-filed data for Vintage 2018.

The Company includes the number of units achieved and a percentage comparison to the as filed values. The unit of measure varies by measure as a participant, for example, may be a single LED bulb, a kW, a kWh, a household or a square foot. Due to the multiple measures in a given program or programs, units may appear skewed and are not easily comparable.

Duke Energy Carolinas, LLC – Executive Summary

Carolinas System Summary¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$523.8	\$633.2	121%
Program Cost	\$141.8	\$159.5	112%
MW²	1,059.3	1,047.9	99%
MWH	816,507.7	861,595.3	106%
Units	155,366,844	95,766,795	62%

1) Values are reflected at the system level.

2) As filed MW are annual maximum peak. Coincident peak is tracked for impacts.

Carolinas Demand Response Summary¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$135.4	\$131.1	97%
Program Cost	\$29.3	\$30.4	104%
MW²	908.4	876.2	96%
MWH	3,530.1	2,498.9	71%
Units³	846,008	828,690	98%

1) Values are reflected at the system level.

2) MW capability derived by taking the average over the PowerShare and PowerManager contract periods.

3) Units included in filing represented kW at meter, rather than number of participants. YTD value reflects average participation for 2018.

Carolinas Energy Efficiency Summary¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$388.4	\$502.1	129%
Program Cost	\$112.5	\$129.1	115%
MW²	150.9	171.8	114%
MWH	812,977.6	859,096.3	106%
Units	154,520,835	94,938,105	61%

1) Values are reflected at the system level.

2) As filed MW are annual maximum peak. Coincident peak is tracked for impacts.

D. Qualitative Analysis

Energy efficiency impacts have primarily been driven by lighting measures for both residential and non-residential customers. This is a result of a higher take-rate for lighting offerings than originally projected.

Highlights

Energy Efficiency

Customer participation continues to be largely driven by lighting and assessments programs. These measures provide customers with a relatively low cost efficiency upgrade, with minimal effort, creating a positive initial energy efficiency experience.

Duke Energy Carolinas, LLC – Executive Summary

Demand Side Management (DSM)

The DSM portfolio is comprised of PowerShare (non-residential), Power Manager (residential), and EnergyWise for Business (non-residential) programs. The impacts and participation were very close to the 2018 as-filed targets.

Issues

A few of the Company's programs struggled to be cost-effective and filed for program modifications at the close of the year. The Company faces a significant challenge with reductions in avoided costs, making programs and their measures potentially less impactful. As a result of this and other factors, the Company's continued assessment of its portfolio may result in the removal of or change in measures.

Potential Changes

Several programs are reviewing their current processes and are considering potential changes to increase customer adoption. Potential changes are discussed in individual program reports.

E. Marketing Strategy

Located in individual reports.

F. Evaluation, Measurement and Verification

Located in individual program reports.

Energy Efficient Appliances and Devices

A. Description

The Energy Efficient Appliances and Devices program ("Program") offers a variety of measures to eligible Duke Energy Carolinas, LLC (the "Company") customers to facilitate a reduction in their energy consumption. The Program includes offers for lighting measures, pool pumps, heat pumps water heaters, and water measures.

Free LED Program

The Free LED (Light Emitting Diode) program is designed to increase the energy efficiency of residential customers by offering customers 9 watt A19 LEDs to install in high-use fixtures within their homes.

The LEDs are offered through multiple channels to eligible customers, including an on-demand ordering platform which enables eligible customers to request LEDs and have them shipped directly to their homes.

The program consists of two types of eligible customers:

1. Customers who have not yet met or exceeded the Duke Energy bulb (CFL or LED) limit of 15. These customers have the option to choose kits in quantities of 3, 6, 8, 12, and 15 bulbs. Available order quantities presented are dependent on past campaign participation (i.e., coupons, Business Reply Cards ("BRCs") and other Company programs offering lighting).
2. Customers who have met or exceeded the 15 bulb limit (CFL or LED) but 5 years have passed since their shipment dates. Depending upon past order quantities, these customers could have the option to order bulbs in quantities of 6 or 12.

Customers have the flexibility to order and track their shipments through three separate channels:

- 1) Telephone: Customers may call a toll-free number to access the Interactive Voice Response ("IVR") system, which provides prompts to facilitate the ordering process. The IVR is designed to handle requests for both English- and Spanish-speaking customers. Customers may easily validate their accounts, determine their eligibility and order their LEDs over the phone.
- 2) The Program's Web Site: Customers can go online to order LEDs, check their order status, see eligibility requirements and view frequently asked questions.
- 3) My Account: Once enrolled and authenticated in OLS, eligible customers will have the ability to order LEDs, check their order status and view frequently asked questions.

Specialty Lighting

The Duke Energy Savings Store ("Store") is an extension of the on-demand ordering platform enabling eligible customers to purchase specialty bulbs and have them shipped directly to their homes. The Store launched on April 26, 2013, and offers a variety Light Emitting Diodes lamps ("LEDs") including reflectors, globes, candelabra, 3-way, dimmable and A-line type bulbs. The incentive levels vary by bulb type, and the customer pays the difference. Various shipping promotions are run throughout the year, ranging from free to a reduced flat rate price.

The maximum number of incented bulbs the Company provides is 36 per account. However, customers may choose to order additional bulbs without the Company's incentive.

In late April 2018, the program added smart thermostats, smart strips, & water products. Customer purchase limits are as follows:

- Smart thermostats- 2 total
- Water measures- 3 total
- Smart Strips- 4 total

Energy Efficient Appliances and Devices

Customers can check eligibility and shop for specialty bulbs through four separate channels.

- 1) The Program Web Site: Customers can access the store via the program's public webpage on DukeEnergy.com. By clicking the "Shop Now" button, customers move to the store where they can purchase specialty bulbs. Frequently asked questions are available to help customers learn more about the program and the sustainability benefits of using LED lighting.
- 2) My Account/OLS: Customers enrolled in the Company's OLS or My Account may visit the Store and purchase specialty bulbs. Upon login, eligible customers are intercepted with the Store offer. Customers can select "Shop Now" or "No Thanks." Additional links and promos within OLS also prompt customers to access the Store.
- 3) Phone Ordering: Customers can call a toll-free phone number provided on all promotional pieces for the program and place their orders over the phone directly with the programs third party vendor.
- 4) On occasion, Duke Energy provides customers with a mail-in option for placing an order. Direct mail campaigns offer specially priced bulb bundles with the option to order these bundles online, by phone or with a postage paid return mailer.

The Store is managed by a third-party vendor, Energy Federation Inc. ("EFI"). EFI is responsible for maintaining the Store website, fulfilling all customer purchases, supporting the program call center, and recommending products. The store's landing page provided information about the store, product offerings, highlights promotions, account information and order history. Support features include a toll free number, chat, package tracking and frequently asked questions..

Educational information is available to help customers with their purchase decisions. This information includes videos and documents that speaks to how the customer can reduce their energy usage while maintaining comfortable atmosphere within their home.

Product pages include application photos, product images, product specifications, purchase limits, and program pricing. Customers may place items in their shopping carts to purchase at a later time. Customers can pay for their purchases with a credit card or by check.

Benefits of the four distinct channels for the Savings Store include the following:

- Improved customer experience
- Advanced inventory management
- Simplified program coordination
- Enhanced reporting
- Increased program participation
- Reduced program costs
- Quick and convenient
- Discounted pricing

Retail Lighting

The Retail Lighting Program launched in March of 2016 with the goal of reducing electric energy consumption and peak demand through increased awareness and adoption of energy-efficient lighting technologies. The program partners with retailers and manufacturers across North and South Carolina to provide price markdowns on customer purchases of efficient lighting. The product mix includes Energy Star-rated standard, reflector, and specialty LEDs and fixtures. Participating retailers include a variety of store types, including Big Box, DIY, club, and discount stores.

The program promotes customer awareness and the purchase of program-discounted products through a range of marketing and outreach strategies, including in-store collateral and events, bill inserts, direct mail and email marketing, mass media advertising, online advertising, and community events. The program also provides training to store staff to enable better customer education at the point of purchase. Ensuring

Energy Efficient Appliances and Devices

customers are purchasing the right bulb for the application through proper customer education is imperative to obtain high satisfaction with lighting products and subsequent purchases.

Water Measures

The Save Energy and Water Kit Program ("SEWK") launched in 2014. The Program is designed to increase the energy efficiency of residential customers by offering customers energy efficient water fixtures and insulating pipe tape for use within their homes.

The SEWK program is offered through a selective eligibility process, enabling eligible customers to request a kit and have it shipped directly to their homes. Customers owning and living in a single-family home with an electric water heater and who have not received similar measures through another Company-offered energy efficiency program are eligible for the program. Kits are available in two sizes for homes with one or more full bathrooms and contain varying quantities of shower heads, bathroom aerators, a kitchen aerator and insulating pipe tape. Program participants are eligible for one kit shipped free of charge to their homes.

Customers are pre-screened based on the eligibility requirements. Marketing channels include both a direct mail business reply card ("BRC") and direct email. Customers receiving the BRC may choose to return the BRC, navigate to a redemption website listed on the card, or call a toll-free number to take advantage of the offer. Customers receiving a direct email simply click on a redemption link to redeem the offer online. Upon receiving the order from the customer through one of the methods above, EFI ships the kit to the customer. Due to the unique eligibility requirements of this program, BRCs and direct email are the only two methods being used to solicit customers for participation.

High Efficiency Pool Pumps

The High Efficiency Pool Pumps measure ("Pool Energy Efficiency Program") is designed to encourage the purchase and installation of energy efficient variable speed pool pumps for residential in-ground swimming pools. Eligible customers receive an incentive of \$300 for the replacement of an eligible single-speed pool pump with a new Energy Star-certified variable speed pump. New swimming pool construction is also eligible for the rebate. The program is marketed through a network of participating contractors ("Trade Allies") that interface directly with the customer, as well as through various marketing channels such as direct mail, email, company website, bill inserts and other customer communications. Eligible customers include single-family, owner-occupied residential customers with an in-ground pool in the Duke Energy Carolinas service territory. Builders of single-family residences are eligible for new residence construction that includes an in-ground swimming pool. In late 2017, this measure was moved to the Residential Smart Saver® Energy Efficiency Program (previously known as HVAC EE).

High Efficiency Heat Pump Water Heater

The high efficiency heat pump water heater measure is designed to encourage the installation and adoption of heat pump water heaters. Eligible customers receive an incentive of \$350 for the replacement of an existing electric water heater with an Energy Star-certified heat pump water heater having an Energy Factor ("EF") rating of 2.0 or higher. The program is marketed through a network of participating contractors ("Trade Allies") that interface directly with the customer, as well as through various marketing channels such as direct mail, email, company website, bill inserts and other customer communications. Eligible customers include single-family, owner-occupied residential customers with electric water heating in the Duke Energy Carolinas service territory. Builders of single-family residences that include an eligible heat pump water heater are also eligible for the rebate. In late 2017, this measure was moved to the Residential Smart Saver® Energy Efficiency Program (previously known as HVAC EE).

Audience

Customers who meet the Program eligibility requirements.

Energy Efficient Appliances and Devices

B & C. Impacts, Participants and Expenses

Energy Efficient Appliances and Devices¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$78.5	\$164.3	209%
Program Cost	\$23.7	\$42.7	180%
MW	11.7	32.8	280%
MWH	97,729.2	195,316.8	200%
Units	3,533,486	10,242,945	290%

1) Values are reflected at the system level.

D. Qualitative Analysis

Free LED Program

Highlights

The program results were strong in 2018. Overall, over 485,000 orders were placed accounting for 6.2 million bulbs.

From an order channel perspective, the IVR intercept was the ordering channel that accounted for the most orders (45%). This was followed by the authenticated portal (formally OLS, now My Account) accounting for 38% of orders in 2018. The Duke Energy public website rounded out the rest of the order channel splits accounting for 17% of orders.

Issues

Analyzing customer data and finding ways to effectively market to non-participating customers is the primary challenge of this program.

Potential Changes

There are no changes for the program anticipated at this time.

Specialty Lighting

Highlights

The OLS provides an ecommerce platform that allows customers to purchase LEDs on demand, at any time. Over 62,418 orders were placed during 2018 resulting in the delivery of over 432,593 bulbs; 23,799 smart thermostats; 1,752 smart strips; and 219 water products have been delivered to customers. Over 90 percent of customers accessed OLS via the public website, while 10 percent accessed OLS by logging into their OLS account.

Issues

Educating and bringing awareness of the Store to eligible customers, while providing expanded product offerings that meet customers energy efficient needs from a holistic perspective is the primary issue at this time.

Potential Changes

The introduction of more non-lighting products to provide variety to the product mix is a potential change for 2019. Additionally, upgrading the entire site to improve the overall customer shopping experience and enhance certain features is also being planned for 2019.

Retail Lighting

Energy Efficient Appliances and Devices

Highlights

In 2018, the program moved a total of 3,005,796 measures, including 2,314,516 LEDs and 691,280 fixtures into customers' homes.

The DEC Energy Efficiency Program had 8 lighting retail channels actively participating in 2018. While the top four retail channels account for 81% of the program sales, all retail channels are important in that they allow access to the program for a widely diverse and geographically spread population of DEC customers. Locations are selected to ensure that the Program reaches 90% of customers within 30 miles of a participating retail location.

The Program is operating efficiently with 78% of overall Program costs going directly to customers in the form of incentives. Most of the remaining Program costs (80% of the remaining 22%) are spent on implementation and administration of the Program, including incentives and management fees. Only 5% of these costs are spent on marketing, labor and other costs.

Issues

No issues are known at this time.

Potential Changes

The Program will continue to evaluate the market and adjust products and incentive levels as necessary, focusing on specialty applications and strategically targeting underserved customers through select channels and events.

Save Energy and Water Kit Program

Highlights

In 2018, the program distributed over 516,000 measures. In 1Q 2018, the program launched online ordering allowing customers to redeem the offer online. As a part of this launch, the Company began using direct email to reach market segments more prone to interact and do business online instead of through traditional mail. Online redemptions accounted for 16% of all redemptions.

Issues

The Company continues to analyze data from non-respondents to the BRC offer to identify opportunities to increase the adoption rate. The Company also continues to review customer satisfaction surveys to identify opportunities for improvement in service rates and overall customer satisfaction.

Potential Changes

In early 2019, the program will add other energy efficient water saving products to the online ordering platform to allow customers to upgrade the products offered through the program and pay the difference during check out.

High Efficiency Pool Pumps

Highlights

The Company partnered with several wholesale distributors across North and South Carolina to serve as distribution channels for program awareness and to develop the Trade Ally Network. Trade Allies are important to the program's success because they interface with the customer during the decision-making process. Several training classes were conducted throughout the jurisdiction to continue educating the trade allies on the advanced technology variable speed as well as on how to sell the technology to the end user.

Energy Efficient Appliances and Devices

Issues

Customer buy-in and the Trade Ally network are vital to the success of the program. Educating contractors on emerging technologies and the value the technologies provide customers is critical in growing the trade ally network and their willingness to promote the program. Additionally, many distributors are requesting point-of-sale rebates as they do not want to deal with submitting rebates or handling the additional paper work requirements for the Program. The Company is currently working to determine if a technology can be put in place to accommodate distributor needs and boost participation.

High Efficiency Heat Pump Water Heater

Highlights

The Company has partnered with manufacturers and national retailers such as General Electric and Lowes to increase program awareness and maximize in store purchases. The program continued recruiting plumbing contractors and currently registered HVAC companies to increase coverage across the jurisdictions and maximize participation. The Program conducted training classes throughout the jurisdiction to educate the Trade Allies on the advanced technology offers for reducing energy consumption as well as on how to sell the technology to the end user.

Issues

Educating and bringing awareness of the program to both customers and potential contractors has been challenging. Educating contractors has been addressed through additional Trade Ally marketing, recruitment and training but remains slow due to the re-emerging technology of heat pump water heaters and their willingness to adopt more technical services. Customer awareness is being addressed through program design and marketing tactics but will be primarily targeted as a joint effort with manufactures and national retailers. Their willingness to co-brand and the frequency of campaigns will be critical in reaching our customer base.

E. Marketing Strategy

Free LED Program

The overall strategy of the program is to reach residential customers who have not adopted LED lighting. The Company educates customers on the benefits of LEDs while addressing barriers for customers who have not participated in the program. Additionally, the ease of Program participation will also be highlighted to encourage use of the on-demand ordering platform. The Free LED and Specialty Lighting offers utilize the same ordering platform so the Company can promote both lighting offers efficiently and bring awareness to non-adopters.

From an outreach standpoint, the program relies on our My Account intercept, a pop up that launches as a customer logs into the My Account authenticated portal to pay their bill or view account information, to generate interest in the program. A customer can click "continue" to move to the Free LED ordering page. In 2018, approximately 30% of orders came as a result of this intercept. In addition to the My Account intercept, the program leveraged it's IVR Intercept that presents when a customer calls into the Duke Energy customer service line and goes through one of three flows—Billing Questions, Meter Read, Make a Payment. After authenticating, if eligible, a message will present that they are eligible for the offer and allowing them to place an order and then be placed back into the flow of their intended call. Overall, there were 203,422 IVR intercept orders out of 582,788 times the intercept presented, translating to a 34.9% take rate.

In addition to the intercepts, the program also solicited customers via emails and direct mail pieces. Such pieces usually targeted New Customers (typically yielding an 18% take rate) and customers who became re-eligible for the Free lighting program after 5 years passed since their Free CFL order (typically yielding a 16% take rate).

A sample of program collateral and emails (which cross promote Specialty Lighting) are available in the Appendix.

Energy Efficient Appliances and Devices

Specialty Lighting

Since the launch of the Store, the marketing efforts include the following:

- bill messages
- bill inserts
- email campaigns
- direct mail

Examples of the marketing pieces can be found in the Appendix. Awareness and education will continue to be a focus in collateral messages to eligible customers, as well as highlighting great pricing and other promotional offerings such as free shipping.

Retail Lighting

The program's marketing efforts for 2018 include the following:

- Point of Purchase materials at participating retailer locations
- Duke Energy and Program website
- General Awareness Campaigns
 - Bill Inserts
 - Email
 - Online Advertising
- Advertised events at key retailers including:
 - Direct mail
 - Email
 - In-Store materials (fliers, bag stuffers, posters, banners, etc.)
- Community outreach events (national night out, cultural events, etc.)

These marketing efforts are designed to create customer awareness of the Program, to educate customers on energy saving opportunities, and to emphasize the convenience of Program participation. Additionally, marketing efforts related to in-store events are designed to motivate customer participation.

Save Energy and Water Kit Program

The overall strategy of the program is to reach residential customers who have not adopted low flow water devices. In 2Q 2018 the Company updated water kit materials to better educate customers on the benefits of low flow water devices. The updates also included streamlining the instruction manual to address installation barriers for consumers who have not participated in the program.

Both direct mail marketing in the form of BRCs and direct email are the current marketing channels being utilized by this program in the Carolinas. With the addition of online ordering and email as a marketing channel, the paper and cost associated with traditional mail solicitations has been reduced. Examples of the updated kit materials, direct mail, and direct email are included in the Appendix.

High Efficiency Pool Pumps

The Company implemented several customer marketing campaigns in 2017 which leveraged channels such as email, paid search, display ads, direct mail and social media to build awareness of the program. Other channels such as co-branded retail displays with selected distributors created awareness of the program. The program's messaging was built around the benefits of the product including payback, annual savings and cleaner pools.

Energy Efficient Appliances and Devices

High Energy Efficiency Heat Pump Water Heater

The Company implemented several customer marketing campaigns in 2017 which leveraged channels such as bill inserts, paid search, and display ads to build awareness of the program. Other channels such as co-branded retail displays with selected manufacturers and national retailers created awareness for the program.

F. Evaluation, Measurement and Verification

Residential Lighting

The DEC Free LED program completed an impact and process evaluation in Dec 2017. The impact evaluation consisted of a review of the tracking data, engineering estimates to calculate energy savings as well as summer and winter demand savings. A participant survey was also conducted to refine in-service rates, assess free ridership and spillover, and determine potential program process improvements.

The impact evaluation verified energy savings at 67% of expected savings; summer and winter demand savings were verified at realization rates of 77% and 103%, respectively. The net-to-gross was estimated at 50%.

No additional EM&V activities are planned for this program due to future sunseting of the program.

The DEC Online Saving program completed an impact and process evaluation in October 2018 and summary results were presented at the 4th Quarter 2018 DEC/DEP Collaborative.

The impact evaluation consisted of a review of the tracking data, engineering estimates to calculate energy savings as well as summer and winter demand savings. A participant survey was also conducted to refine in-service rates, assess free ridership and spillover, and determine potential program process improvements.

Verified impacts reveal that energy savings achieved 81% of the expected savings, while the realization rate for summer demand savings was 99% and for winter demand, 49%. Estimated net-to-gross was 72%.

Future evaluations are tentatively scheduled for 2020, subject to participation levels for the non-lighting marketplace measures.

Heat Pump Water Heaters/Pool Pump

The evaluation for Heat Pump Water Heater and Variable Speed Pool Pump measures were included in the DEC Smart Saver HVAC evaluation, completed in May 2018, and presented to the DEC/DEP Collaborative in 4th Quarter 2018.

Detailed results for these measures can be found in the Smart Saver program update.

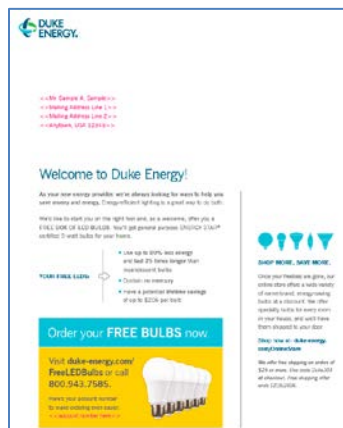
Save Energy & Water

No evaluation activities were conducted in 2018 for this program. Evaluation planning is expected to commence in 2019, with a final evaluation report tentatively scheduled for 2nd Quarter 2020.

Energy Efficient Appliances and Devices

G. Appendix

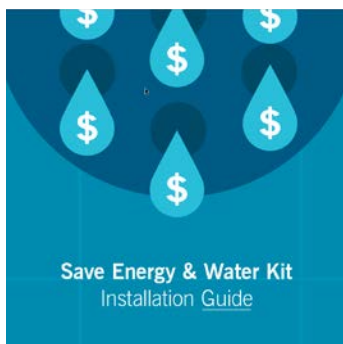
Free LED Program – Direct Mail New Customer Letter:



Free LED Program – Email Campaign:



Save Energy and Water Kit Program Installation Guide



Energy Efficient Appliances and Devices

Water and energy are precious resources.

With your FREE Save Energy and Water Kit, you can save water every time you turn on the faucet or take a shower. The items included in this kit combine energy efficiency and performance. These devices save more energy and water than many of the standard devices on the market today.

Energy-efficient showerhead(s)

Faucet caps with aerators for the bathroom

Adjustable faucet cap with aerator for the kitchen

Water heater pipe insulation tape

Rubber easy-grip cloth

Roll of pipe thread sealing tape

Showerhead Installation

Newer, top of the line showerheads can help you save up to **2 gallons of water per minute** while maintaining water pressure and your comfort. For each energy-efficient showerhead installed, you save up to 52% on the energy used to heat water for showers.

What you'll need:

- A. Energy-efficient showerhead(s)
- B. Rubber easy-grip cloth
- C. Pipe thread sealing tape
- D. Pliers
- E. Rag (not included)

- Remove your existing showerhead.**
Wrap the rubber easy-grip cloth around the base of your showerhead and turn counterclockwise (left) to loosen. Use pliers if necessary.
- Apply pipe thread sealing tape.**
Once a showerhead is removed, wrap pipe threads with the rag to remove excess moisture and residue. Wrap two layers of pipe thread sealing tape across the threads to secure them.
- Install your new energy-efficient showerhead.**
Screw your new showerhead onto the threaded arm of the shower arm in a clockwise direction (right).
- Test your showerhead.**
When you turn the water on, look closely at the connection between the shower arm and the base of the showerhead collar to see if water is leaking. If so, tighten with pliers.
- Adjust the water flow mode.**
Your new low-flow showerhead is equipped with two modes: massage and pulsating. Turn the rubber ring all the way to the right for massage mode. Turn it all the way to the left for full spray mode.

Faucet Aerator Installation

Mixing air with water reduces the amount of water needed. The aerator also maintains constant and satisfactory water pressure. Energy-efficient faucet aerators can **cut energy costs up to 46% annually** compared to non-energy efficient aerators.

What you'll need:

- A. Faucet caps with aerators*
- B. Rubber easy-grip cloth
- C. Pliers (optional)

* If the aerator provided in this kit does not fit your faucet, call 866.807.1544 to request a free aerator.

- Remove your existing faucet cap.**
Using the rubber easy-grip cloth, unscrew the existing faucet cap. If the faucet arm has threads on the inside (female), use male rubber washer. If it has threads on the outside (male), use female rubber washer.
- Install your new faucet cap with aerator.**
Align the threads on the inside of the faucet arm with the exterior threads of the new cap. Turn the faucet cap in a clockwise (right) direction and tighten fully with the rubber easy-grip cloth.
- Test your new aerator(s).**
While the water is flowing, look closely for any leaks at the threads. If you notice a leak or spray, tighten with the rubber easy-grip cloth.

TIP: Install your new tri-flow faucet cap in your kitchen.
Use the dot to adjust the flow of water at three different rates. Try using the lowest setting for hand washing, the middle setting for washing clothes and the highest setting for filling pots or the sink.

Water Heater Pipe Wrap Insulation Tape Installation

Wrapping your water heater pipes is a simple way to manage water temperature in your home and could save you nearly **17 percent on the energy** used to heat water.

What you'll need:

- A. Insulation tape (see roll = 15 feet of tape)
- B. Scissors (not included)

- Locate the hot water pipe for your water heater.**
The hot water pipe extends out of the top or side of your water heater.
CAUTION: The hot water pipe will be very warm to the touch. Note the length of that pipe where it leads out of the electric water heater and up into the ceiling or walls of your home.
- Make sure the pipe is both clean and dry.**
- Wrap your pipe with the tape.**
Carefully wrap the tape fully around the exposed length of the pipe, making sure that the edges of the tape meet each time you wrap it around the pipe for maximum insulation and energy savings.


Need help installing your energy-efficient equipment?

View our installation videos at duke-energy.com/SaveWater or call customer service at 866.807.1544 for assistance.

Duke Energy and other logos are available in qualifying Duke Energy territories. Duke Energy Programs, Duke Energy Services, Duke Energy Marketing and Duke Energy Other customers.

Energy Efficient Appliances and Devices

Save Energy and Water Kit Program Thank You Survey Card



**THANK YOU FOR ORDERING
A SAVE ENERGY AND WATER KIT.**

Be sure to let us know what you think of
your new energy efficient fixtures.

**DUKE
ENERGY.**

Install your new water fixtures today and start saving BIG.

Our fixtures are up to 50% more efficient than current standard ones.
If you have any questions about your kit or installing the fixtures,
please call us at 888.807.1544.

Your opinion matters.

We would appreciate your feedback on the Save Energy and Water program. Please take
a moment to fill out our online survey today at duke-energy.com/SaveWaterSurvey.

Save Energy and Water Kits are available to qualifying Duke Energy Customers, Duke Energy Progress, Duke Energy Indiana,
Duke Energy Kentucky and Duke Energy Ohio customers.

**DUKE
ENERGY.**

BUILDING A SMARTER ENERGY FUTURE™

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Save Energy and Water Kit Program Direct Mail

DUKE ENERGY CORPORATION
10000 DUKES DRIVE
DURHAM, NC 27704
DUKE ENERGY CORPORATION
10000 DUKES DRIVE
DURHAM, NC 27704
DUKE ENERGY CORPORATION
10000 DUKES DRIVE
DURHAM, NC 27704

SAVE A WATER WISE KIT

**DUKE
ENERGY.**

Stop saving money down the drain!
Get a FREE Save Energy and Water Kit today!

**Water and energy are
precious resources.**

And now we've made it possible to save water
and energy while still enjoying your shower.

To learn more about our program, visit
duke-energy.com/waterwise or call 888.807.1544.
To register for your FREE kit, visit duke-energy.com.

Inside your FREE kit:

- State-of-the-art showerheads:** These high-pressure showerheads are new, you save up to 2 gallons of water per minute while maintaining water pressure and your comfort.
- Pipe insulation tape:** Insulating your water heater with a 1/2 inch tape to maintain water temperature in your home and save up to 10% on your energy bill.
- Save nearly 17% on your energy bill.**
- Insulation guide and how-to video:** Our new video is a step-by-step, easy-to-follow guide to help you conserve the installation of your new fixtures. Insulation video and frequently asked questions are also available at duke-energy.com/waterwise.

**YES, send me my
FREE
Save Energy and
Water Kit!**

☐ I confirm that my residence
has an electric water heater
and that the location corresponds
with my Duke Energy account
information. I will install the kit
within 30 days of receiving it.

NOTICE: You must have an electric
water heater to receive this free kit.
We will invoice you for the kit if you
do not have an electric water heater.

**DUKE
ENERGY.**

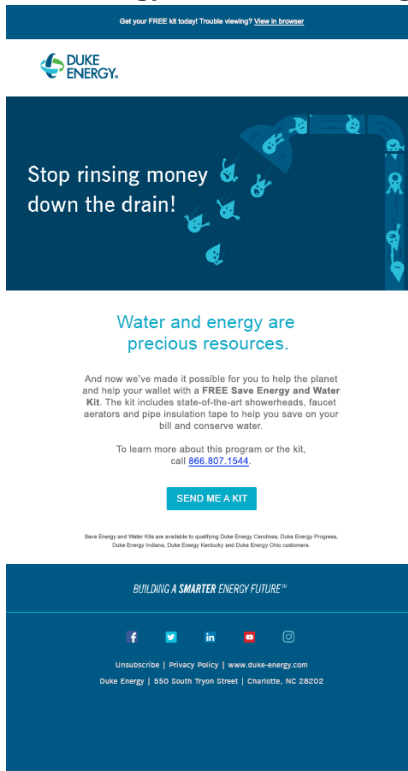
The program is available only to
qualifying Duke Energy Customers.
Kit is subject to availability and
may vary by location.

Energy Efficient Appliances and Devices

Save Energy and Water Kit Program Direct Mail



Save Energy and Water Kit Program Direct Email



Energy Efficient Appliances and Devices

Online Savings Store

July-

Save! Thermostats + FREE Google Mini + FREE shipping. Trouble viewing? [View in browser](#)

DUKE ENERGY

4th of July spectacular: Nest thermostat sale

Save up to \$115 on Nest® thermostats + get a FREE Google Home Mini®.

This 4th of July, don't miss this incredible deal on smart thermostats. Nest thermostats are a great way to take control of how much energy your home uses, even when you're not at home. Your order even ships for FREE!

Offer ends July 8, so order your Nest today with promo code: NESTJULY

BUY NOW

Nest Learning Thermostat

Retail value:	\$249
Duke Energy rebate:	- \$65
4th of July special:	- \$50
Customer price:	\$134

Nest Thermostat E

Retail value:	\$169
Duke Energy rebate:	- \$65
4th of July special:	- \$20
Customer price:	\$84

DUKE ENERGY

Savings Store Lighting Program
57144 | 400 S. Tryon Street
Charlotte, NC 28202

FREE Google Home Mini with purchase (\$49 value)

Limit 2 Nest thermostats per account. While supplies last. Terms and conditions apply.

While supplies last. Additional taxes and fees may apply. Duke Energy is not affiliated with Nest or Google and does not make or warrant the thermostat or Google Mini. Google Mini is the version offered by Nest in its discretion. Please direct all questions to Nest or Google. The Nest logo, Nest Learning Thermostat and Nest Thermostat E are registered trademarks of Nest Labs, Inc. The Google Mini is a trademark of Google LLC. All rights reserved.

BUILDING A SMARTER ENERGY FUTURE™

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Duke Energy | 550 South Tryon Street | Charlotte, NC 28202

DUKE ENERGY

This sale deserves a parade: Select LED bulbs for just 4¢ each!

CELEBRATE THE 4TH OF JULY WITH SPECTACULAR SAVINGS!

4 LED bulb styles.
4¢
EACH!

Offer ends July 31. See promo code inside for FREE shipping!

August

September-[illegible]

October

November-

THIS IS OUR BEST
ECOBEE SALE EVER.



SAVE UP TO \$115
ON A SMART THERMOSTAT!



**DUKE
ENERGY.**

Savings Store Lighting Programs
5124AA | 400 S. Tryon Street
Charlotte, NC 28202



<<FirstName LastName>>
<<Street address>>
<<City, State ZIP>>

SEEKING A SMARTER ENERGY FUTURE?™

Sale ends Nov. 27! Visit duke-energy.com/ecobeeSale today.

[illegible][illegible]

Get bulbs and more through Description: "Trickle saving" view in content


It's a savings wonderland!

Light up your holiday with 5¢ LED bulbs!


[SHOP NOW](#)

It's also your last chance to save \$65 on smart thermostats. This great special savings on TrickleSmart® Advanced PowerStrips. This promotion only runs Dec. 1-31, so don't miss out!

Use promo code **LASTCHANCE** to get free shipping



NewLeaf Candle LED Bulb	
Retail value:	\$3.05
Duke Energy rebate:	-\$3
Your price:	\$0.05








NewLeaf BR20 Reflector LED Bulb	
Retail value:	\$4.05
Duke Energy rebate:	-\$4
Your price:	\$0.05

Limit 2 smart thermostats, 36 bulbs and 4 power strips per customer.

While supplies last.

Duke Energy Inc. offers rebates on the installation or purchase, use and warranty or liability against the performance of residential customer products and may make the rebate amounts subject to the installation of these products in the area coverage under the terms of the residential product program. These are not warranties regarding a product or the quality, performance, or condition of the product. The rebate is not a cash refund. Rebates are subject to the applicable restrictions, the residential product program ("Rebate Program") is managed by Duke Energy's independent third party administrator, and the program is subject to change without notice.

BUILDING A SMARTER ENERGY FUTURE™

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 Duke Energy | 500 South Street | Charlotte, NC 28202

Energy Efficient Appliances and Devices

Retail Lighting Sidebar Banner



High Efficiency Pool Pump Digital Ad

DUKE ENERGY | Smart Saver®

Save up to \$640 next summer!




Pool expenses sending you off the deep end?

Act now, and you could find yourself swimming in extra cash next summer.

As a Duke Energy customer, you can save up to \$640* in the first year when you upgrade to a quieter, more efficient pool pump that helps make your pool cleaner, with less maintenance required.

[START SAVING](#)

An ENERGY STAR® certified variable-speed pool pump:

-  Gives you a \$300 rebate after you install, using a participating contractor.
-  Pays for itself in less than two years.
-  Saves you up to \$340 each year in energy costs.

High Efficiency Heat Pump Water Heater National Retailer Display



Energy Efficient Appliances and Devices

High Efficiency Pool Pump Facebook Posting

The image shows a screenshot of a Facebook post from Duke Energy. The post is titled "High Efficiency Pool Pump Facebook Posting". It features a video thumbnail of a person swimming in a pool. The text of the post says: "Save up to \$640 this summer. Upgrade your pool pump today and splash into savings." Below the video, it says "Get \$300 cash and up to \$340 in energy savings." and provides the website "www.duke-energy.com/Splash". The post has 59 likes, 14 comments, and 41 shares. The bottom of the post shows the profile of Amy Burgess Schornhorst with Aryn Burness and Suzanne Colwell Burness. To the right of the Facebook post, there is a promotional graphic for a heat pump water heater. The graphic says "Cut water heating costs in half." and "Save big when you upgrade to a heat pump water heater." It also lists "LOWER BILLS" (Save up to \$250 on water heating costs*) and a "REBATE" (Qualify for a \$350 mail-in rebate from Duke Energy**). Below this, it says "Get your \$350 cash rebate in three easy steps:" and lists three steps: "STEP ONE: Make your selection. Select and purchase the ENERGY STAR® model that fits your needs.", "STEP TWO: Installation. Schedule an installation date with one of our participating contractors.", and "STEP THREE: Get your cash. Submit your rebate application." At the bottom of the graphic, it says "For more information, call 866.507.3496 or visit duke-energy.com/SaveBig".

High Efficiency Heat Pump Water Heater Digital Media

The image shows a digital media advertisement for a high efficiency heat pump water heater. The background is a light blue gradient with a splash of water at the top. On the left, the text reads: "Water heater over 10 years old? Don't wait until it fails. Get \$350 when you upgrade your water heater." Below this text is a green button with the text "Find a contractor" and a right-pointing arrow. On the right side of the advertisement is a large image of a white heat pump water heater unit with a digital display on the front.

Energy Efficiency Education Program

A. Description

The Energy Efficiency Education Program ("Program") is available to students in grades K-12 enrolled in public and private schools in the Duke Energy Carolinas (the "Company" or "DEC") service territory. The current curriculum administered by The National Theatre for Children ("NTC") provides performances in elementary, middle and high schools.

The Program provides principals and teachers with an innovative curriculum to educate students about energy, resources, how energy and resources are related, ways energy is wasted, and how to be more energy efficient. The centerpiece of the curriculum is a live theatrical production focused on concepts such as energy, renewable fuels and energy efficiency and performed by two professional actors. Teachers receive supportive educational material for classroom and student take-home assignments. The workbooks, assignments and activities meet state curriculum requirements.

School principals are the main point of contact for scheduling their school's performance at their convenience. Two weeks prior to the performance, all materials are delivered to the principal's attention for classroom and student distribution. Materials include school posters, teacher guides, and classroom and family activity books.

Students are encouraged to complete a request form with their families (found in their classroom and family activity book, as well as online) to receive an Energy Efficiency Starter Kit. The kit contains specific energy efficiency measures to reduce home energy consumption. It is available at no cost to eligible Duke Energy customer households at participating schools.

Audience

Eligible participants include the Company's residential customers who reside in households served by Duke Energy Carolinas with school-age children enrolled in public and private schools.

B & C. Impacts, Participants and Expenses

Energy Efficiency Education¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$3.8	\$3.3	87%
Program Cost	\$2.1	\$2.0	95%
MW	1.3	1.1	87%
MWH	5,604.4	4,889.4	87%
Units	26,250	22,901	87%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

The Company is supporting arts and theatre in schools while providing an important message about energy efficiency for students through an innovative delivery channel. Enhancing the message with a live theatrical production captivates the students' attention and reinforces the classroom curriculum materials provided.

For the 2018-2019 school year, elementary students enjoy watching *Showdown at Resource Ranch* performed by two professional actors who lead the students through an action-packed Wild West adventure, all while teaching about energy conservation and resources.

In this 25-minute play, Sheriff Carrie Gooper is on the case of a natural resource crisis throughout Dodge Ball City – but that's not all she has to deal with ... she's also been challenged to a showdown by none

Energy Efficiency Education Program

other than notorious bandit, Billy the Kit! With the help of the students, will the sheriff be able to face Billy and find out what in tarnation is going on with the city's resources?

The Resource Force is performed by two professional actors who lead the students through a series of comical improvisational shenanigans, all while teaching about energy conservation and resources.

In this 40-minute show, the middle school students in grades 6-9 assist the actors in constructing the show in front of them, as it happens, with their very own suggestions – so each show is unique to the audience that creates it! The show is a series of improvised comedy sketches between characters in all sorts of hilarious situations. Before each scene, actors interact with the audience and get ideas to use during the sketch, such as their favorite bands or a household pet. The ideas are incorporated into the show and may change the course of a scene.

What's Your Goal? is performed by two professional actors who lead the students through a series of interactive comedy sketches, all while teaching about the importance of energy efficiency.

In this 45-minute show, the high school students in grades 9-12 assist with the improvisation process via audience participation and suggestions. Volunteers will be brought up on stage for games like "Carbon Footrace," puzzles, general improv shenanigans and energy-oriented trivia – so each performance is unique to the group of students that help create it!

The objective of the program is to encourage high school science classrooms, environmental clubs and Green Teams to champion energy conservation in their schools and communities. *What's Your Goal?* also offers the opportunity for the students (and staff) to save energy at home by providing Energy Kits that contain items to conserve electricity and water.

From January through December 2018, a total of 418 schools hosted 653 performances in the Company's DEC service territory, reaching approximately 177,174 students and spurring the distribution of 22,901 kits.

Once an eligible customer submits a completed energy efficiency, the Energy Efficiency Starter Kit is shipped for delivery within two to four weeks. To ensure customer satisfaction with the Energy Efficiency Starter Kit and the installation of items, customers receive an email reminder monthly after the kit delivery to encourage families to return their Business Reply Card (BRC) verifying installation of measures. Qualified households that submit their energy efficiency survey and return the BRC are automatically entered into the household contest drawing, sponsored by NTC.

Additionally, school and classroom contests encourage sign-ups, and NTC awards checks to schools whose students, along with their families, completed home energy surveys and received energy efficiency kits. In the fall and spring of each year, a drawing is held selecting one school and one household contest winner. Principals, teachers and students may view their school's progress and compare the number of sign ups to other schools via the website, www.trackmysignups.org.

Updates

The Company continues to enhance the Program by the following:

- Introducing new productions each school year to refresh and refocus the materials and scripts to keep participating schools engaged.
- Promoting the program through social media to encourage awareness, recognition and participation.
- Partnering with Duke Energy Account and District Managers to leverage existing relationships in the community to develop positive media stories while encouraging kit sign ups.
- Offering teacher satisfaction survey evaluations after the performances for both the elementary and middle school shows. Average survey data from January through December indicated 95% of

Energy Efficiency Education Program

the Elementary teachers surveyed and 94% of Middle School teachers surveyed had very high satisfaction ratings.

- Enhancing the offering by providing additional materials for all student households, but particularly those that have already received the current Energy Efficiency Starter Kit as well as non-Duke Energy customer student households. Including non-Duke customer households increases customer satisfaction and provides additional energy savings impacts for all customers, but particularly those customers that would otherwise have been excluded from the kit offering.
- In Q1 2019, the Program plans to release a gamification application that will further drive participation in the program and provide an additional channel of on-going engagement with the students.

E. Marketing Strategy

The National Theatre for Children is responsible for all marketing campaigns and outreach. NTC utilizes direct mail and email sent directly to principals to market the Program.

F. Evaluation, Measurement and Verification

The next evaluation work is combined Duke Energy Carolinas and Duke Energy Progress process and impact evaluation. Evaluation activities began third quarter of 2018, with a final report delivery date of First Quarter 2019.

The evaluator will verify impacts through engineering estimates. Participant surveys were also utilized to refine in-service rates, provide inputs into other algorithm variables, and help establish free ridership and spillover.

The process evaluation will help uncover participants' program awareness, identify opportunities to improve program operations, and measure participants' satisfaction with measures provided through the kit.

A. Description

Duke Energy Carolinas, LLC's (the "Company's" or "DEC") EnergyWise Business (the "Program") is an energy efficiency and demand response program for non-residential customers that allows the Company to reduce the operation of participants' air conditioning units to help manage the power grid. The Program provides customers with options for how they would like to participate. In exchange for participation, the Company applies an annual incentive directly to their bills.

For each air conditioning or heat pump unit that they have, Program participants can choose between a Wi-Fi thermostat or a load control switch professionally installed for free by the Program. In addition to choosing the equipment, participants also choose the cycling level at which they participate—30%, 50% or 75%. The levels represent the percentage of the normal on/off cycle of the unit that is reduced. During a conservation period, Company sends a signal to the thermostat or switch to reduce the amount of time a unit is on by the percentage the participant selected. For participating at the 30% level the customer receives a \$50 annual bill credit for each unit, \$85 for 50% cycling, and \$135 for 75% cycling. Finally, participants that have a heat pump unit with electric resistance emergency/back up heat and choose the thermostat can also participate in a winter option that allows the Company to control the emergency/back up heat. For 100% control of the emergency/back up heat, the Company provides an additional \$25 annual bill credit.

Participants choosing the thermostat are given access to a portal that allows them to control their units from anywhere they have internet access. They can set schedules, adjust the temperature set points and receive energy conservation tips and communications from the Company. In addition to the portal access, participants also receive conservation period notifications. Notifications allow participants to make adjustments to their schedules or notify their employees of the upcoming conservation period. Participants are allowed to override two conservation periods per year either before or during the conservation period.

Audience

The Program is available to existing non-residential customers that are not opted-out of the DSM portion of the Company's EE/DSM rider, Rider DSM; have at least one air conditioner or heat pump that operates to maintain a conditioned space on weekdays during the calendar months of May through September; and are not served under Schedules BC and HP, Riders NM, SCG, IS, PS or PSC. Also, customers must have an average minimum usage of 1,000 kWh during those same calendar months.

B & C. Impacts, Participants and Expenses

EnergyWise for Business¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed ³	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$3.4	\$3.0	87%
Program Cost	\$2.2	\$3.1	141%
MW	17.0	8.1	48%
MWH	3,530.1	2,498.9	71%
Units²	6,863	11,462	167%

1) Values are reflected at the system level.

2) Units represent average monthly kW at meter for demand response measures (6,858), plus individual participants for smart thermostat energy efficiency measure (4,604).

3) As filed values not included as program was not included in filing.

D. Qualitative Analysis

Highlights

During 2018, the Program experienced significant growth. The Program installed almost 400 new devices bringing the total installed devices in DEC to over 9,400. The door-to-door marketing (canvassing) efforts have continued to be the most productive marketing efforts for producing enrollments, installations and positive customer interactions. In 2018, the Program canvassed in the Winston-Salem/Greensboro, Charlotte, the greater Charlotte region, Greenville/Spartanburg, and Hickory areas. Over 20,000 customers were reached during 2018 through the canvassing efforts.

Issues

One factor impacting the Programs overall performance is the high number of customers selecting to enroll in the 30% cycling option. Approximately 80% of customers are participating in this option. The assumption when the Program was filed was that 50% of customers would select this option. Also, over the second half of the year the Program experienced an increase in the number of customers that failed to reschedule their installation appointments. To recapture some of these customers, the Company is implementing a recurring monthly email targeting these customers. Finally, evaluations indicated that technicians were not doing a consistent job promoting the winter option to customers with heat pumps. The Program has addressed this with technicians and implemented a recurring email to those customers that have the heat pumps and selected the thermostat.

Potential Changes

Program staff is working with canvassers to improve their pitches to promote the higher cycling options. The Program will follow those changes with compensation modifications to support the promotion of the higher cycling options. Also, the Program is evaluating the possibility of adding additional thermostat options to offer customers during the install. The new thermostat will reduce the number of installs that are turned down due to the current version not having features used by the customer.

E. Marketing Strategy

In 2018 the Program continued the efforts of door-to-door marketing using a dedicated canvassing vendor. In addition to canvassing, the Program targets slightly larger and multi-location customers through Duke Energy's Business Energy Advisors.

F. Evaluation, Measurement and Verification

Process findings in the 2017 evaluations indicated customers rated the following very highly:

- ease of program enrollment when enrolling on their own (mean of 9.2).
- satisfaction with the representatives who installed the device,
- the time required to install the device

DEC participants reported lower satisfaction with participation in Conservation Periods (mean of 7.2) and with their use of the program's online portal (mean of 8.2).

Energy Assessments

A. Description

The Home Energy House Call Program ("Program") is offered under the Energy Assessment Program. Duke Energy Carolinas, LLC (the "Company") partners with several key vendors to administer the Program.

The Program provides a free in-home assessment performed by a Building Performance Institute ("BPI") certified energy specialist and designed to help customers reduce energy usage and save money. The BPI-certified energy specialist completes a 60- to 90-minute walk through assessment of a customer's home and analyzes energy usage to identify energy savings opportunities. The energy specialist discusses behavioral and equipment modifications that can save energy and money with the customer. The customer also receives a customized report that identifies actions the customer can take to increase the home's efficiency. Examples of recommendations might include the following:

- Turning off vampire load equipment when not in use.
- Turning off lights when not in the room.
- Using energy efficient lighting.
- Using a programmable thermostat to better manage heating and cooling usage.
- Replacing older equipment.
- Adding insulation and sealing the home.

In addition to a customized report, customers receive an energy efficiency starter kit with a variety of measures that can be directly installed by the energy specialist. The kit includes measures such as energy efficiency lighting, a low-flow shower head, low flow faucet aerators, outlet/switch gaskets, weather stripping, and an energy saving tips booklet.

Audience

Eligible Program participants are the Company's residential customers that own a single-family residence with at least four months of billing history and central air, electric heat or an electric water heater.

B & C. Impacts, Participants and Expenses

Energy Assessments¹

<i><u>\$ in millions, rounded</u></i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$7.2	\$6.9	96%
Program Cost	\$2.6	\$2.8	108%
MW	1.1	0.9	81%
MWH	7,436.0	7,716.7	104%
Units	8,440	10,268	122%

1) Values are reflected at the system level.

2) Units represent number of kits, and do not include additional LEDs.

D. Qualitative Analysis

Highlights

The Company continues with a multi-channel approach which includes Duke Energy website pages, website banners, online services banner, paid search campaigns, Pandora, Facebook, email, bill inserts, bill messages, direct mail, and customer segmentation to reach customers with a high propensity to participate. Examples of online, bill inserts and direct mail promotions are available in the appendix. Program staff explores other channels for marketing campaigns to reach the target audience and maximize both program performance as well as customer experience.

Energy Assessments

Vendors, partners and the team at Duke Energy collaborate regarding marketing initiatives, future scheduling, availability, routing, targeting, backlog, etc. to drive efficient operations as well as customer satisfaction.

Through December 2018, the program conducted 10,268 assessments and installed 45,710 additional LEDs. The program continues to focus on maximizing the number of measures installed as well as cross-promoting other Duke Energy programs and offerings.

Enhancements to the program in 2018 include a continued focus on cross promotion of other programs and integration of in-field referrals for FindItDuke, upgrading showerheads to chrome, implementing thermal imaging technology, testing handheld showerheads, removing four month usage eligibility requirement and performing route optimization updates.

Potential Changes

Some program enhancements to increase the effectiveness of the Program being considered include the following:

- Continuing to optimize the online scheduling tool to enhance the customer experience
- Upgrading free measures to include pipewrap and additional bathroom aerators where relevant.
- Evaluation of upgradeable measures in field such as hand-held showerheads, smart thermostats, specialty bulbs, blower door option.
- Evaluating the incentive offerings to maximize savings and impacts as well as customer acceptance
- Including for townhomes/condos for audit eligibility
- Implementing post audit follow up with reminders of recommendations/referrals

E. Marketing Strategy

Program participation continues to be driven through a multichannel approach including targeted mailings to pre-qualified residential customers, bill inserts, online promotions and online video. For those who elect to receive offers electronically, email marketing continues to be used to supplement direct mail. Information about the Program was included in the My Home Energy Report distributed in January 2018 and July 2018. The Program management team continues to explore additional channels to drive awareness such as social, event marketing and other cross-promotional opportunities. The creative team continues to drive engagement and interest in the program based on online survey results and enrollment. Core messaging remains simple and focused on key benefits—a free energy assessment from Duke Energy can help save energy and money while also increasing comfort and it only takes three easy steps (You Call, We Come Over, You Save).

Home Energy House Call program information and an online assessment request form are available at www.duke-energy.com.

F. Evaluation, Measurement and Verification

The program completed an impact and process evaluation in October 2018, with the summary findings presented at the Fourth Quarter 2018 DEC/DEP Collaborative.

A billing analysis was the primary methodology to determine energy and demand savings. The billing analysis compared the consumption of program participants to future program participants. Engineering estimates for the HEHC kit measures were also conducted to provide insight into the behavioral impacts achieved through the program and to provide impacts for the Additional Bulbs provided to program

Energy Assessments

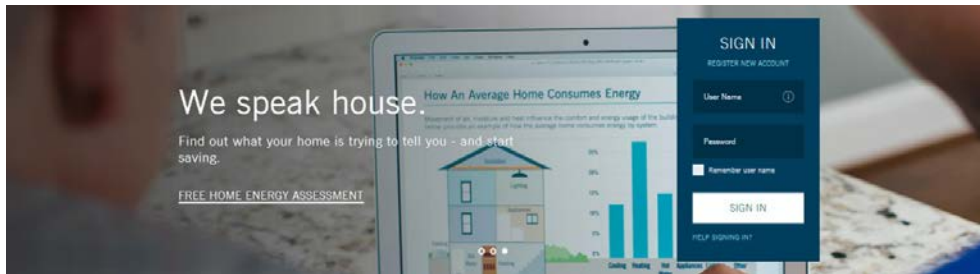
participants. Participants surveys were used to determine in-service rates and determine free ridership at the measure level.

The process evaluation consisted of participant surveys; results were used to identify barriers to participation and improve program processes.

Energy Assessments

G. Appendix: 2016 Marketing Samples

Online Banners:



Where is your money going?

Track down runaway energy dollars with a free home energy assessment.

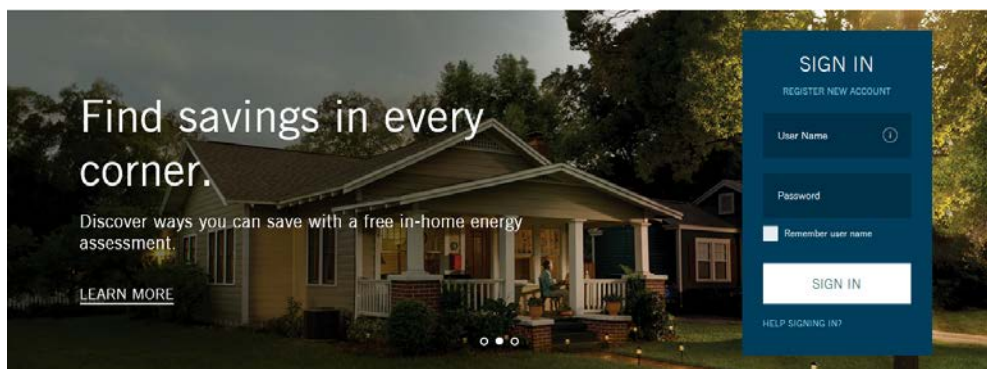
[LEARN MORE](#)



Where is your money going?

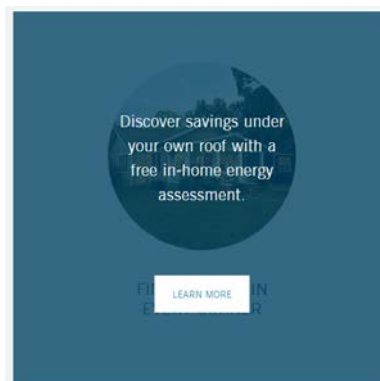
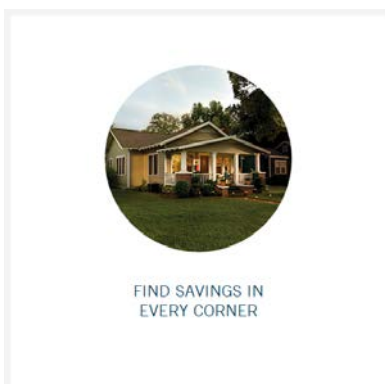
Find out with a free home energy assessment.

[Learn more](#)



Find savings in every corner >

Discover savings under your own roof with a free in-home energy assessment.

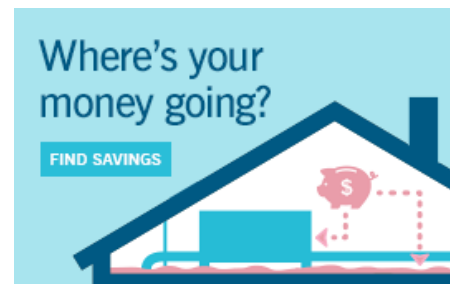


Energy Assessments



Free home energy assessment >

Find ways to save energy and money in your home.



Email:

Find out with a free home energy assessment. Trouble viewing? [View in browser](#)

DUKE ENERGY

What's your home trying to say?
Find out with a free energy assessment.

Why is one room drafty and the other stuffy? Is your HVAC supposed to sound like that? Never fear. We speak your home's language.

When you get your FREE Home Energy House Call, we'll analyze your home's energy use and show you how to improve your home's comfort and save on your monthly bill. We'll check for air leaks, insulation, HVAC efficiency and more.

[SIGN UP](#)
OR CALL 877.388.7676

BONUS: GET A FREE ENERGY SAVINGS KIT
Free LEDs, weatherstripping and more can help you start saving right away.

Available for eligible homeowners. See if you qualify.

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Duke Energy | 660 South Tryon Street | Charlotte, NC 28202

Find out with a free home energy assessment. Trouble viewing? [View in browser](#)

DUKE ENERGY

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[SIGN UP](#)
OR CALL 877.388.7676

BONUS: GET A FREE ENERGY SAVINGS KIT
FREE LEDs, weatherstripping and more can help you start saving right away.

Available for eligible homeowners. See if you qualify.

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Duke Energy | 660 South Tryon Street | Charlotte, NC 28202

How much money is escaping your house each month? Trouble viewing? [View in browser](#)

DUKE ENERGY

Where is your money going?

Find out with a free Home Energy House Call. How much money is escaping your house each month through drafty windows, leaky ductwork and other hidden energy wasters?

[FIND OUT FOR FREE](#)

We'll help you track down – and save – runaway energy dollars and make your home more comfortable.

Here's what you'll get:

- [FREE in-home energy assessment.](#)
- [Information on \\$1,000 in home improvement rebates.](#)
- [FREE energy efficiency starter kit!](#)

[f](#) [t](#) [in](#) [v](#) [p](#)

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How much money is escaping your house each month? Trouble viewing? [View in browser](#)

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[FIND OUT FOR FREE](#)

We'll help you track down – and save – runaway energy dollars and make your home more comfortable.

Here's what you'll get:

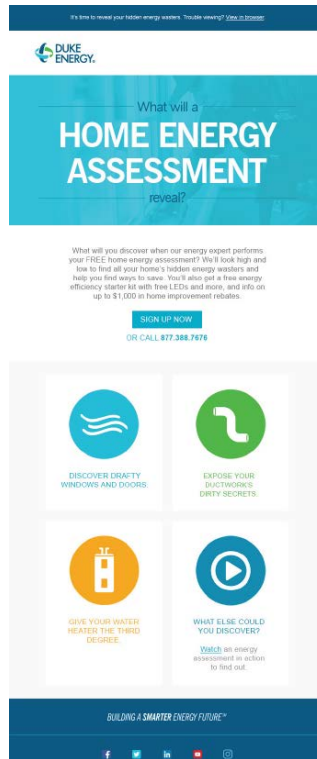
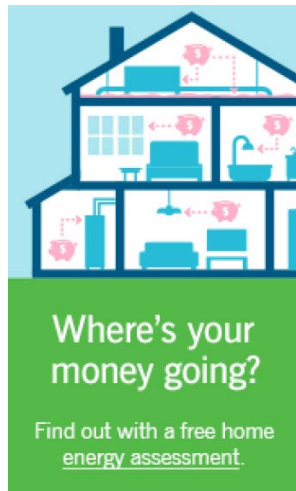
- [FREE in-home energy assessment.](#)
- [Information on \\$1,000 in home improvement rebates.](#)
- [FREE energy efficiency starter kit!](#)

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Duke Energy | 660 South Tryon Street | Charlotte, NC 28202

Energy Assessments



Direct Mail:



Energy Assessments

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 1000 CHARLOTTE, NC 28216
DUKE ENERGY HOME ENERGY HOUSE CALL
1001 CROSS BOWMAN STREET
CHARLOTTE, NC 28216-9999



Home Energy House Call
We'll help you track down – and save – runaway energy dollars and help make your home more comfortable with a **FREE** home energy assessment. **A \$180 value!**

DUKE ENERGY
177024 / 400 South Tryon Street
Charlotte, NC 28202

POSTAGE WILL BE PAID BY ADDRESSEE



Where is your money going?
Find out with a **FREE** home energy assessment.

DUKE ENERGY

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 1000 CHARLOTTE, NC 28216
DUKE ENERGY HOME ENERGY HOUSE CALL
1001 CROSS BOWMAN STREET
CHARLOTTE, NC 28216-9999



10-22% of your heating and cooling bill could be escaping through air leaks.
4-22% of your energy bill could be sneaking out with your hot water.

DUKE ENERGY
177024 / 400 South Tryon Street
Charlotte, NC 28202

POSTAGE WILL BE PAID BY ADDRESSEE



Where is your money going?
Find out with a **FREE** in-home energy assessment.

DUKE ENERGY



How much money is escaping your house each month through drafty windows and doors, leaky ductwork and other hidden energy wasters?

Home Energy House Call
A free home energy assessment can reveal hidden energy wasters that are letting energy and money literally slip through the cracks. A \$180 value! **Sign up and get:**

- A free home energy assessment
- An energy savings kit with LEDs, a showerhead and more
- Information on over \$1,000 in home improvement rebates

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Schedule your FREE Home Energy House Call today.

Complete and return the attached card or call 844.345.4266 or visit duke-energy.com/FindMyMoney

Name on account _____
Address _____
City/State/ZIP _____
Daytime phone _____
Evening phone _____

To qualify, you must:

- Be a Duke Energy residential customer.
- Own a single-family home and have lived there for at least four months. (Condos, townhomes, duplexes and mobile homes do not qualify.)
- Have central air, electric heat or an electric water heater.

Bill Inserts:



Find savings in every corner.
Discover ways you can save with a **FREE** in-home energy assessment.

Home Energy House Call

Free in-home energy assessment and energy savings kit for eligible homeowners – \$180 value!

Your **FREE** expert will:

- Check for air leaks
- Inspect insulation levels
- Examine your heating/cooling system

Sign up today! Call 855.739.9114 or visit duke-energy.com/FreeAudit to see if you qualify.

DUKE ENERGY

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Energy Assessments



Where is your money going?

How much money is escaping your house each month through drafty windows, leaky ductwork and other hidden energy wasters?

Find out for **FREE**.



Home Energy House Call

We'll help you track down – and save – runaway energy dollars and help make your home more comfortable. You'll get:

- ✓ A free home energy assessment
- ✓ A free energy savings kit
- ✓ Info on up to \$1,000 in home improvement rebates

Sign up today! Call **855.739.9114** or visit duke-energy.com/RunawayMoney to see if you qualify.

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Where is your money going?

Find out with a **FREE** in-home energy assessment.

Learn how to prevent energy dollars from escaping your home with a free energy assessment.

A free home energy assessment* can reveal hidden energy wasters that are letting energy and money literally slip through the cracks. A \$180 value! Sign up and get:



Free in-home energy assessment



Free energy savings kit



Info on up to \$1,000 in home improvement rebates

*Available for eligible homeowners.

Schedule today at duke-energy.com/MyMoney or call **855.739.9114**.

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We make house calls

Get a **FREE** in-home energy assessment.

[Learn more](#)




Home Energy House Call

844.DING.DONG

[Learn more](#)





Energy Assessments

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We make house calls. Get a FREE in-home energy assessment to learn how your home is losing energy and money. For eligible homeowners.




Home Energy House Call
Free in-home energy assessment!
Duke-energy.com/HomeEnergyVisit

90 4 Comments 14 Shares

Like Comment Share

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Discover ways to save with Home Energy House Call. Get a FREE in-home energy assessment from an energy expert. For eligible homeowners.




Free in-home energy assessment!
Plus FREE LEDs and more!
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Book a free energy assessment and save! Our expert can reveal how your home loses energy and money. Plus receive free products to help lower your bill.



Free in-home energy assessment
Home Energy House Call
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Free expert advice
Home Energy House Call
Duke-energy.com/HomeEnergyVisit




Plus FREE LEDs and more!
Home Energy House Call
Duke-energy.com/HomeEnergyVisit

12 2 Comments 1 Share

Like Comment

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Is money escaping your house through drafty windows, leaky ductwork and other hidden energy wasters? Find out with a FREE home energy assessment.




Where is your money going?
Find out for FREE.
duke-energy.com/runaways

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Where is your money going? Find your home's hidden energy wasters with a free home energy assessment.




Find runaway energy dollars.
Free home energy assessment.
duke-energy.com/runaways



Cash escaping through ducts?
We'll check for leaks.
duke-energy.com/runaways




Money slipping through cracks?
It could be your doors.
duke-energy.com/runaways



Dollars ducking out the attic?
We'll examine your insulation.
duke-energy.com/runaways

Duke Energy
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Don't let energy dollars escape! Find hidden energy hogs with a free in-home energy assessment. Schedule yours today.




Where's your money going?
Find out for free
duke-energy.com

90 4 Comments 14 Shares


Like Comment Share

Duke Energy
Sponsored · 🇺🇸


Are energy wasters giving your money an escape route? Seal in savings with a free in-home energy assessment. Schedule yours now.




Money exiting a drafty door?
We'll find air leaks.



Losing dollars to lighting?
Get free LEDs.



Hot water hogging energy?
We'll check the temperature.



Cash slipping out windows?
We'll inspect them.

12 2 Comments 1 Share

Like Comment

Income-Qualified Energy Efficiency and Weatherization Assistance Program

A. Description

The purpose of the Low Income Energy Efficiency and Weatherization Assistance Program ("Program") is to assist low income customers with installing energy efficiency measures in their homes. There are three offerings currently in the Program:

- Neighborhood Energy Saver ("NES")
- Weatherization and Equipment Replacement Program ("WERP")
- Refrigerator Replacement Program ("RRP").

WERP and RRP are available for income-qualified customers in Duke Energy Carolinas, LLC's (the "Company's") service territory for existing, individually metered single-family homes, condominiums, and mobile homes. Funds are available for (i.) weatherization measures and/or (ii.) heating system replacement with a 15 or greater SEER heat pump, and/or (iii.) refrigerator replacement with an Energy Star appliance. The measures eligible for funding will be determined by a full energy audit of the residence. Based on the results of the audit, customers are placed into a tier based on energy usage so that high energy users to receive more extensive weatherization measures. (Tier 1 provides up to \$600 for energy efficiency services; and Tier 2 provides up to \$4,000 for energy efficiency services, including insulation.) WERP and RRP are delivered in coordination with State agencies that administer the state's weatherization programs.

Customers participating in the NES receive a walk-through energy assessment to identify energy efficiency opportunities in the customer's home and a one-on-one education on energy efficiency techniques and measures. Additionally, the customer receives a comprehensive package of energy efficient measures. NES participants may have the measures listed below installed in their homes based on the opportunities identified during the energy assessment.

1. Energy Efficient Bulbs - Up to 15 energy efficient bulbs (LEDs) to replace incandescent bulbs
2. Electric Water Heater Wrap and Insulation for Water Pipes
3. Electric Water Heater Temperature Check and Adjustment
4. Water Saving Faucet Aerators - Up to three faucet aerators
5. Water Saving Showerheads - Up to two showerheads
6. Wall Plate Thermometer
7. HVAC Winterization Kits – Up to three kits for wall/window air conditioning units will be provided along with education on the proper use, installation and value of the winterization kit as a method of stopping air infiltration.
8. HVAC Filters - A one-year supply of HVAC filters will be provided along with instructions on the proper method for installing a replacement filter.
9. Air Infiltration Reduction Measures - Weather stripping, door sweeps, caulk, foam sealant and clear patch tape will be installed to reduce or stop air infiltration around doors, windows, attic hatches and plumbing penetrations.

Audience

WERP is available to qualified customers in existing individually metered, owner-occupied single-family residences, condominiums or manufactured homes.

RRP is available to qualified customers in individually metered residences irrespective of whether the property owner or the tenant owns the refrigerator.

NES is available to individually metered residential customers in selected neighborhoods where ~50% of the homeowners have income equal to or less than 200% of the Federal Poverty Guidelines, based on third party and census data.

Income-Qualified Energy Efficiency and Weatherization Assistance Program

B & C. Impacts, Participants and Expenses

Income Qualified Energy Efficiency and Weatherization Assistance¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$3.8	\$3.7	97%
Program Cost	\$7.5	\$6.5	87%
MW	0.8	0.7	88%
MWH	5,287.5	5,212.0	99%
Units	10,426	10,681	102%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

Neighborhood Energy Saver: After receiving regulatory approval from both the North Carolina Utilities Commission and the South Carolina Public Service Commission in the fall of 2012, the Program was officially launched by the Company in March 2013. The yearly goal is to serve a minimum of 8,926 households. Honeywell Building Solutions was awarded the contract through a competitive bid process to administer the Program.

In 2018, NES offered free walk-through energy assessments to 7 qualifying neighborhoods in NC – Durham, Chapel Hill, Salisbury and Hickory, Graham, Charlotte and Sylvia and 4 qualifying neighborhoods in SC – Belton, Wellford, Great Falls and Greenville. Neighborhood events have included support from community groups and speakers such as elected officials, community leaders and community action agency representatives.

Weatherization: The Company launched WERP and RRP in February 2015 in North and South Carolina. The Company selected the program administrator, North Carolina Community Action Agency (NCCAA), in December 2014 via competitive bidding. The company is working with the NC and SC Weatherization Agencies to deliver this program.

In 2018, 631 homes received weatherization in conjunction with the DOE weatherization program, with 168 refrigerators replaced, 70 Tier 1 services provided and 561 Tier 2 services provided.

E. Marketing Strategy

Neighborhood Energy Saver: NES continues to target neighborhoods with a significant low-income customer base using a grassroots marketing approach to interact on an individual customer basis and gain trust. Participation is driven through a neighborhood kick-off event that includes trusted community leaders and local and state officials explaining the benefits of the Program. The purpose of the kick-off event is to rally the neighborhood around energy efficiency and to educate customers on methods to lower their energy bills. Customers have the option to make an appointment for an energy assessment at the time of the event.

Weatherization: WERP and RRP plan to piggy-back the marketing efforts of the current state Weatherization Assistance Programs administered by the state weatherization service providers. Additionally, agencies may utilize referrals generated from other Company energy efficiency programs as well as from their existing pool of weatherization applicants.

In addition to the kick-off event, the Company plans to use the following avenues to inform eligible customers about the Program:

- Direct mail (letters and reminder post cards)

Income-Qualified Energy Efficiency and Weatherization Assistance Program

- Door hangers
- Press releases and/or neighborhood flyers
- Community presentations and partnerships
- Inclusion in community publications such as newsletters, etc.

F. Evaluation, Measurement and Verification

The process and impact evaluation report for the Neighborhood Energy Saver portion of the Program is scheduled for completion in the third quarter of 2019 upon the program's transition to LEDs. This will be a combined evaluation with DEP.

Low Income Weatherization completed an impact and process evaluation in June 2018. The evaluation consisted of a billing analysis (comparing program participants' consumption in the sample period against a comparison group of future program participants) to estimate impacts for the Tier 1 and Tier II measures.

The process evaluation assessed program operations and identified potential opportunity areas. Activities for the impact and process evaluation began in early 2016 and the summary findings were presented to the DEC/DEP Collaborative in fourth quarter of 2018.

Multi-Family Energy Efficiency Program

A. Description

The Multi-Family Energy Efficiency program ("Program") provides energy efficient lighting and water measures to reduce energy usage in eligible multi-family properties. The Program allows Duke Energy Carolinas, LLC (the "Company") to utilize an alternative delivery channel which targets multi-family apartment complexes. The measures are installed in permanent fixtures by Franklin Energy, the program administrator, or the property management staff. Franklin Energy oversees all aspects of the Program including outreach, direct installations, and customer care.

The Program helps property managers save energy by offering energy efficient lighting and water products. The Program offers LED lighting measures including A-lines, globes, candelabras, recessed, and track bulbs and energy efficient water measures such as bath and kitchen faucet aerators, water saving showerheads and pipe wrap. Water measures are available to eligible customers with electric water heating. These measures assist with reducing maintenance costs while improving tenant satisfaction through lower energy bills.

The Program offers a service where Franklin Energy installs the lighting and water measures during scheduled visits. Crews carry tablets to keep track of which measures are installed in each apartment. Alternatively, property managers have the option to complete the installations during routine maintenance visits. In these cases, the property maintenance crews track the number of measures they install and report these totals, by apartment, back to Franklin Energy. Franklin Energy then validates the information and submits the results to the Company.

After installations are completed, Quality Assurance ("QA") inspections are conducted on 20 percent of properties that completed installations in each month. The QA inspections are conducted by an independent third party. Any QA adjustments are provided to the Company to update participation records.

Audience

The target audience is property managers who have properties served on individually metered residential rate schedules. To receive water measures, apartments must have electric water heating.

Properties that have already been served by the Property Manager CFL program are only eligible for water measures and specialty LED bulbs. However, properties with CFL installations over 5 years old are eligible for all the new LEDs and water measures.

B & C. Impacts, Participants and Expenses

Multi-Family Energy Efficiency¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$17.4	\$16.6	95%
Program Cost	\$4.2	\$3.6	87%
MW	2.2	2.2	99%
MWH	22,582.1	21,309.6	94%
Units	370,882	430,474	116%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

Through December 2018, the Program completed installations at 198 properties, accounting for over 30,600 units. The Program installed 430,474 measures with lighting representing 67% of the measures and water measures representing the remaining 33%. In 2018, the Program successfully added new LED

Multi-Family Energy Efficiency Program

bulb options to the offering for recessed and track fixtures, which have been well received by tenants and property managers. The new recessed and track LEDs approved in April represented 12% of the LEDs installed during 2018. Also in 3Q and 4Q 2018, the Program successfully added brushed nickel bath aerators and showerheads as an option. Added in late September, brushed nickel bath aerators represented 12% of total bath aerators installed. Added in December, brushed nickel showerheads represented 1% of all total showerheads installed. Additionally, the Program expanded the criteria to serve all units in a complex by removing the requirement that buildings must have 4 conjoined units to receive measures.

Issues

There are no issues to report now.

Potential Changes

Program Management continues to evaluate new energy efficient measures for addition to the program.

New technology enhancements are being implemented to increase the accuracy of recording the measures installed and the bulb wattages removed, to increase efficiencies with scheduling units, and to improve the tracking of new opportunities from both the direct installers and energy advisors.

E. Marketing Strategy

As program implementer, Franklin Energy is responsible for marketing and outreach to property managers in the Company's service territory. Marketing is primarily done through outbound calls and on-site visits to gauge initial interest in the program. The Program staff also utilizes local apartment association memberships to obtain access to contact information for local properties and attends association trade shows or events to promote the program. The Program was an exhibitor in the May 2018 AANC Conference in Raleigh, NC and generated over 57 leads for the region and 15 property contacts.

A Multi-Family Energy Efficiency public website landing page is available for property managers to learn more about the Program. A program brochure and a frequently asked question sheet are available for download.

Other ways a property manager may learn more about this Program are through the MyDuke Portal, an online tool used to pay the utility bills of vacant units at their property. The MyDuke Portal presents a promo link that directs the user to the Program website for more information.

Once enrolled, Franklin Energy provides property managers with a variety of marketing tools to create awareness of the Program among their tenants. The tools include letters to each tenant informing them of energy efficient measures being installed and of when the installations are taking place. Tenants receive educational leave-behind brochures when the installation is complete.

Feedback from both property managers and tenants is important for the Program's continued success. Property managers are provided with leave-behind materials about the program which also includes survey for them to complete and return. For tenants, the educational leave-behind brochure includes a satisfaction survey to return to Duke Energy. Online versions of both the Program Manager and Tenant surveys are also available.

Multi-Family Energy Efficiency Program

After the installation, window clings are placed in strategic areas throughout the property, specifically in the common areas entry and on each residential building on site (to the extent applicable). Using the window cling ensures that the program and Duke Energy are recognized long after the installation has taken place.

F. Evaluation, Measurement and Verification

The combined DEC/DEP EM&V evaluation began in April of 2018. The evaluation will determine the net annual energy and demand associated with the program participants between January 1, 2017, and May 1, 2018. The evaluator will use a combination of surveys, on site data collection, a lighting logger study, and engineering analysis to determine the impacts for the program. The final report is in draft stage and should be complete in 1Q 2019.

Multi-Family Energy Efficiency Program

Appendix

Tenant Letter-

Updated for new LEDs and safety messages



Dear Resident:

Congratulations! Your property manager has enrolled your building in the [Multifamily Energy Efficiency Program](#). Based on an assessment of your unit, a selection of these complimentary products may be installed to help reduce your monthly energy usage:



[Straight Line, Globe and Candelabra LED Light-bulbs](#) to replace your outdated incandescent lightbulbs



[Water-saving showerheads](#) to replace your existing fixtures



[High-efficiency faucet aerators](#) for your kitchen and bathroom sinks



[Hot water pipe wrap](#) to reduce heat loss

Trained technicians will perform the [free](#) installations in each unit on the date and time indicated below. The technicians will be accompanied by a member of the maintenance or management staff, who will provide access to your unit if you are not home at the time of installation. Additionally, the technicians will be in uniform with proper photo identification.

[Technicians will be in your building:](#)

After the installations are completed, you will receive documentation and other educational materials about the energy-saving products that were installed free of charge in your unit. Included in these materials is a customer satisfaction survey that we would appreciate your completing.

For additional information about this offering, or other offerings from Duke Energy, contact the Multifamily Energy Efficiency Program at [888.297.1671](tel:888.297.1671), email dukeenergymultifamilyeep@franklinenergy.com or visit duke-energy.com/multifamily.

Thank you!

Multifamily Energy Efficiency Team

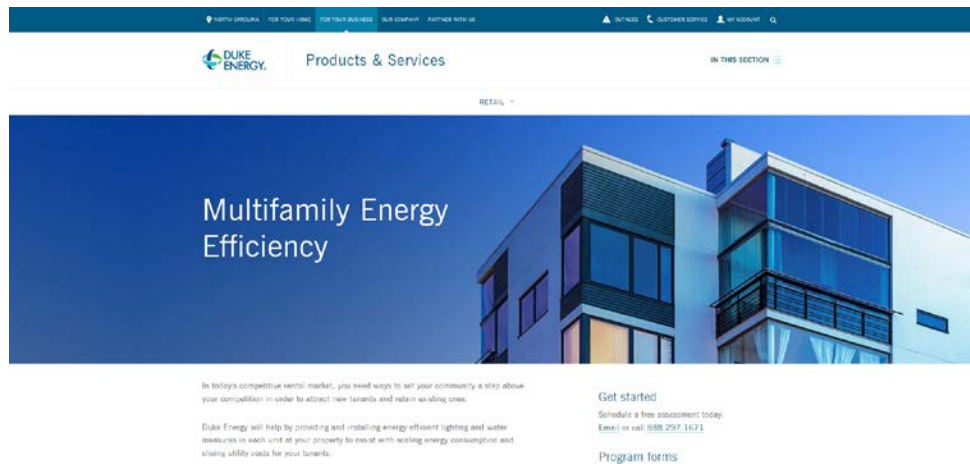
Help Us Help You!

In preparation for your installations, please make sure to:

- ☐ Safely contain your pet(s) during our visit
- ☐ Provide access to your water heater, shower(s), sinks and light fixtures
- ☐ Put away your valuables
- ☐ Have an adult present during installation
- ☐ Keep a safe distance while installers are working in your unit

Multi-Family Energy Efficiency Program

Program Web Page-



Program Brochure- Updated for new LEDs and chrome aerators



Multi-Family Energy Efficiency Program

Window Cling-



This property participated in Duke Energy's Multifamily Energy Efficiency program and now has energy-efficient products that benefit you.



Tenant Leave Behind-

Updated for new LEDs, chrome aerators and Survey modifications

Multifamily Energy Efficiency Program



Based on an assessment of your unit, these products were selected to offset your monthly energy usage:

Electric



Straight Line, Globe, Candelabra, Recessed and Track LED Lightbulbs
LEDs last longer and use up to 90 percent less energy than incandescent bulbs.

Water

(Water-saving products are only installed in properties that use electricity to heat water.)



Faucet aerators*
Faucet aerators installed in the kitchen and bathroom use up to 55 percent less water than standard faucet aerators.



Showerhead*
An energy-efficient 1.5-gpm showerhead will use less water than a regular showerhead, which means you can also use less energy to heat the water.



Pipe wrap*
Hot water pipe wrap reduces water and energy use by preventing heat loss while hot water travels through the pipes.

*Provided only to properties that use electricity to heat water.

For more information, contact the Multifamily Energy Efficiency Program at 888.297.1671 or dukeenergymultifamilyeep@franklinenergy.com. Or, visit duke-energy.com/multifamily.

Note that this program is administered by Franklin Energy, a contractor of Duke Energy, with experience in the installation of home energy-saving products.
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Customer Survey

Property name: _____
Name: _____
Address: _____ Unit No.: _____ City: _____ State: _____ ZIP: _____
Email: _____

I was at home while the technicians installed the products. ☐ Yes ☐ No
What effect has your participation in the Multifamily Energy Efficiency Program had on your overall satisfaction with Duke Energy? ☐ Positive effect ☐ Negative effect ☐ No effect ☐ Don't know

ON A SCALE OF 1 TO 10, PLEASE RATE YOUR OVERALL SATISFACTION OR LEVEL OF AGREEMENT:
1=NOT SATISFIED/DISAGREE 10=VERY SATISFIED/AGREE

	1	2	3	4	5	6	7	8	9	10	
Overall, I was satisfied with the Duke Energy Multifamily Energy Efficiency Program.	0	1	2	3	4	5	6	7	8	9	10
The Technicians treated me with courtesy and my property with respect.	0	1	2	3	4	5	6	7	8	9	10
My questions were answered about the products installed.	0	1	2	3	4	5	6	7	8	9	10
Satisfaction with Light-Emitting Diode (LED) bulb.	0	1	2	3	4	5	6	7	8	9	10
Satisfaction with Kitchen faucet aerators.	0	1	2	3	4	5	6	7	8	9	10
Satisfaction with Bathroom faucet aerators.	0	1	2	3	4	5	6	7	8	9	10
Satisfaction with Shower head.	0	1	2	3	4	5	6	7	8	9	10
Satisfaction with Pipe wrap.	0	1	2	3	4	5	6	7	8	9	10

Comments: _____

Thank you for participating in this program. We'd like to know how we did installing your new energy-saving products. Please complete the survey at left and mail it to us. The survey is also available online at duke-energy.com/multifamilysurvey.



My Home Energy Report

A. Description

The My Home Energy Report ("MyHER" or the "Program") is a periodic usage report that compares a customer's energy use to similar residences in the same geographical area based upon the age, size and heating source of the home. The report includes recommendations to encourage energy saving behaviors. Customers with email addresses on file receive an electronic version of their reports monthly.

Customers receive reports up to 12 times per year via paper and electronic delivery. (Delivery may be interrupted during the off-peak energy usage months in the fall and spring.) The report delivers energy savings by encouraging customers to alter their energy use. Customer's usage is compared to the average homes (top 50 percent) in their area as well as the efficient homes (top 25 percent). It also suggests energy efficiency improvements, given the usage profile for that home. In addition, the report recommends measure-specific offers, rebates or audit follow-ups from the Company's other programs, based on the customer's energy profile. As of December 31, 2018, over 1.2 million single-family DEC customers and over 202,000 multi-family DEC customers receive the MyHER report.

The MyHER interactive online portal allows customers to learn more about their energy use and about opportunities to reduce their usage. Customers can set goals, track their progress, and receive more targeted tips. As of December 31, 2018, over 51,000 single-family customers and over 4,100 multi-family customers were enrolled on the portal.

Audience

Target customers reside in individually metered, single-family and multi-family residences with active accounts and concurrent service from Duke Energy Carolinas, LLC (the "Company"). Single-family residences receive 8 printed reports and, if they have an email address on file, 12 electronic reports. Multi-family residences with registered email addresses with the Company receive 4 printed reports and 8 electronic reports. Multi-family residences without registered email addresses with the Company receive 6 printed reports a year with a strong call to action to provide their email addresses.

B & C. Impacts, Participants and Expenses

My Home Energy Report¹

<i><u>\$ in millions, rounded</u></i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$26.6	\$26.3	99%
Program Cost	\$12.5	\$13.3	106%
MW ²	77.3	81.4	105%
MWH ²	304,387.0	320,613.6	105%
Units ³	1,354,138	1,432,263	106%

1) Values are reflected at the system level.

2) Values represent the annual MW and MWH savings associated with the December 2018 month end participation.

3) At December 2018 month end, single-family participation was 1,229,370, while multifamily participation was 202,893.

D. Qualitative Analysis

As customers receive subsequent reports and learn more about their specific energy use and how they compare to their peer group, their engagement increases. The report then provides tools in the form of targeted energy efficiency tips with actionable ideas to become more efficient. Program participants are encouraged to contact the Company with their questions, comments and report corrections. Report corrections continue to generate the largest number of inquiries. Customers wishing to be removed from the Program represent 0.04% of single-family Program participants and .02% of multi-family Program participants.

My Home Energy Report

Highlights

In 2018, the program team created a specialized multi-family MyHER report which shares energy savings tips for multi-family dwellings. Starting in Q2 2018, qualified customers living in multi-family homes began receiving the MyHER report throughout DEC. With the deployment of AMI meters throughout DEC, the program has begun sending AMI data to Tendril. Customers with AMI meters can see their interval energy usage on the MyHER interactive experience.

E. Marketing Strategy

The Program is marketed on the reports themselves by referring customers to the program website for additional information, Frequently Asked Questions ("FAQs") and contact resources. The MyHER Interactive portal is marketed by email campaigns as well as in the printed report.

F. Evaluation, Measurement and Verification

The next process and impact evaluation report, combined with DEP, is scheduled for completion in the second quarter of 2019. As is typical with MyHER evaluations, the impact evaluation will consist of a billing analysis to determine the consumption differences between the treatment group and the control group.

Residential –Smart \$aver® Energy Efficiency Program

A. Description

The Residential – Smart \$aver® Energy Efficiency Program (“Program”) offers measures that allow eligible Duke Energy Carolinas, LLC (the “Company”) customers to reduce energy consumption in the home. The Program provides incentives for the purchase and installation of eligible central air conditioner or heat pump replacements in addition to Wi-Fi enabled Smart Thermostats when installed and programmed at the time the heating ventilation and air conditioning (HVAC) system is installed. Program participants may also receive an incentive for attic insulation, air sealing, duct sealing, variable speed pool pumps, and heat pump water heaters.

Program staff is responsible for establishing relationships with HVAC and home performance contractors (“Trade Allies”) who interface directly with residential customers. These Trade Allies market and leverage the Program to assist with selling these products and services to customers. Once the Trade Ally has sold the service/product, they complete and submit incentive applications on behalf of the customer. An incentive is disbursed to the customer and/or Trade Ally after the application has been approved and processed.

Duke Energy contracts with a third-party vendor for application processing, incentive payment disbursement, and Trade Ally and customer call processing.

Audience

The Company’s residential customers that meet the eligibility requirements of the Program may participate.

B & C. Impacts, Participants and Expenses

Residential - Smart \$aver Energy Efficiency Program¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$7.4	\$9.0	121%
Program Cost	\$4.4	\$7.0	159%
MW	1.6	1.6	104%
MWH	5,359.6	6,727.9	126%
Units	9,480	25,293	267%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

The Company’s tiered incentive structure continues to receive a positive reaction from customers as well as Trade Allies. Reporting continued to show that the increased incentive amounts for higher SEER equipment has encouraged customers to install higher efficiency equipment as well as having it managed with newer thermostat technologies.

The Referral Channel which provides free, trusted referrals to customers who are trying to find reliable home improvement contractors for their energy-related needs, successfully generated over 21,000 customer referrals during 2018 exceeding the total number of referrals generated in all of 2017 by 150%. Customers whose referral generated a sale for the Trade Ally received a survey to rate their experience with a referred contractor. The Referral Network maintained a contractor rating of 4.8 out of 5.0 stars during this period. Additionally, the referral channel experienced a 44% increase in the number of contractors who qualified and opted into the referral channel. The program also saw a reduction in the incremental cost to the customer across all measures. The reduced cost, which was part of a filing

Residential –Smart Saver® Energy Efficiency Program

approved in North Carolina on January 7, 2019, will continue to improve the Program's cost effectiveness in 2019 and beyond.

Issues

The buy-in and participation of the Trade Ally network is vital to the success of the Program. The Program continues to try to shift market practices away from relying heavily on decentralized training, varying knowledge levels, and imprecise manual field calculations and towards industry trained and certified trade allies using higher quality diagnostic instruments and processes when applicable. The Company has continued to struggle to gain contractor acceptance with diagnostic based measures due to the need to purchase diagnostic equipment, obtain additional industry certifications and alter current business practices. The program will continue to emphasize best practices and to build support by offering additional training to the Trade Allies and modifications to program requirements when needed.

E. Marketing Strategy

Promotion of the Program is targeted to HVAC and home performance contractors as well as pool and plumbing contractors that install variable speed pumps and heat pump water heater technology. Trade Allies are important to the Program's success because they interface with the customer during the decision-making event.

Program information to educate customer about the Program and encourage participation and Trade Ally enrollment links are available on the Program's website. Increasing the overall awareness of the Program and the participation of Trade Allies ensures more customers are considering the benefits of the Program at the time of purchase.

Based on numerous customer engagement surveys and focus groups, the Program rebranded the referral channel, currently known as "Find It Duke," in March of 2018 with the intent of positioning Duke Energy as a trusted advisor for customers who are making energy related home improvements. Various customer marketing campaigns during 2018 leveraged channels such as direct mail, TV, radio, and email messaging in order to build awareness of the referral service. Other marketing efforts, such as a paid search and co-branded special offer campaigns with eligible referral contractors, manufacturers, and national retailers, also created awareness for the channel.

F. Evaluation, Measurement and Verification

An impact and process evaluation was completed for this program in the second quarter of 2018 and the summary results presented to the DEC/DEP Collaborative in the fourth quarter of 2018.

The impact evaluation included onsite measurement and verification for specific HVAC measures and engineering estimates for the other measures. Participants surveys also helped refine inputs into the engineering algorithms as well as establish free ridership and participant spillover. Trade ally surveys and interviews helped establish non-participant spillover.

The process evaluation was designed to document program operations, identify needed program improvements, and gauge participant and trade ally satisfaction with the program measures and the overall program.

Residential –Smart \$aver® Energy Efficiency Program

G. Appendix

Residential Referral – Bill Insert



Hire the right home improvement professional **the first time.**
Our referral network goes beyond star ratings to connect you to a top contractor.

Why Find It Duke?



TRUST
We have a managed network of contractors.



SAVINGS
Earn up to \$1,600 in energy-efficient rebates.



RELIABILITY
We routinely inspect and validate the workmanship.

Visit FindItDuke.com or call 866.785.6209.
(Monday-Friday, 8 a.m. to 8 p.m. EST)



©2018 Duke Energy Corporation 180973 4/18

BUILDING A SMARTER ENERGY FUTURE™

30827-40188



Did you know?

Water heaters are the second-highest source of energy usage in most homes.

Heat pump water heaters can help you save energy and money every day, plus you can get a \$350 rebate when you install an ENERGY STAR® model.

But wait ... there are more reasons to upgrade.



Save \$250 each year – or more – on your water-heating costs.



Easy operation and consistent temperature.



Long lifespans of up to 13 years and low maintenance.

To learn more or find a participating contractor, check out duke-energy.com/HotWater.
Must be a single-family household. Additional restrictions may apply.

* Department of Energy: Heat pump water heaters provide savings of nearly 55% compared to typical electric water heaters.



30827-40151

Residential –Smart \$aver® Energy Efficiency Program

Residential HVAC – Referral Special Offer Campaigns

Save big on residential heat pump or HVAC upgrades. "Find it Duke." [Click here to learn more.](#)

Need a qualified HOME REPAIR CONTRACTOR?

Say, Find it Duke, and we'll find it for you.

Whether you need a qualified plumber, HVAC contractor, insulation expert or electrician, our free referral service will match you to a pre-screened list of industry professionals. Go beyond star ratings. Turn to Find it Duke by Duke Energy and hire the right home repair professional the first time. *It's easy and free.*

[FIND A CONTRACTOR](#)

Take advantage of these limited-time offers!
Energy offers only valid through Aug. 31, 2019.

SAVE \$550
Upgrade to an energy-efficient Heat Pump Water Heater and get a \$500 special offer, plus earn a \$300 rebate. [Click here](#) and enter promo code: SAVE \$550

SAVE up to \$600
Upgrade your HVAC system to a 15 SEER and get a \$300 special offer, plus earn up to \$600 in rebates. [Click here](#) and enter promo code: SAVE \$600

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Duke Energy | 550 South Tryon Street | Charlotte, NC 28202

Save big on residential heat pump or HVAC upgrades. "Find it Duke." [Click here to learn more.](#)

Need a qualified HOME REPAIR CONTRACTOR?

Say, Find it Duke, and we'll find it for you.

Whether you need a qualified plumber, HVAC contractor, insulation expert or electrician, our free referral service will match you to a pre-screened list of industry professionals. Go beyond star ratings. Turn to Find it Duke by Duke Energy and hire the right home repair professional the first time. *It's easy and free.*

[FIND A CONTRACTOR](#)

Take advantage of these limited-time offers!

SAVE \$300
Get \$200 off when you seal your existing duct work per system. Plus receive an additional \$100 rebate. [Click here](#) and enter promo code: DUCT

SAVE up to \$450
Upgrade your attic insulation and air seal to receive \$200 OFF, plus get a \$250 rebate. [Click here](#) and enter promo code: SEAL

Some rebate restrictions may apply. Visit [finditduke.com](#) for details.

BUILDING A SMARTER ENERGY FUTURE™

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Residential HPWH – Partnership Email

Smart \$aver®

INSTANT SAVINGS

\$350 instant rebate on a heat pump water heater.

Upgrade now and maximize your savings.
Get to your nearest Lowe's or go to [Lowe's.com](#) and upgrade to a high-efficiency heat pump water heater. Enjoy up to \$330 in annual energy savings* plus a Duke Energy \$350 instant rebate, redeemable at time of purchase.

Enjoy the benefits of a more efficient water heater, with low maintenance and easy operation.

AVAILABLE AT

[CLICK TO GET REBATE](#)

Or call 866.785.6209

Check off these simple steps and gain access to your \$350 rebate:

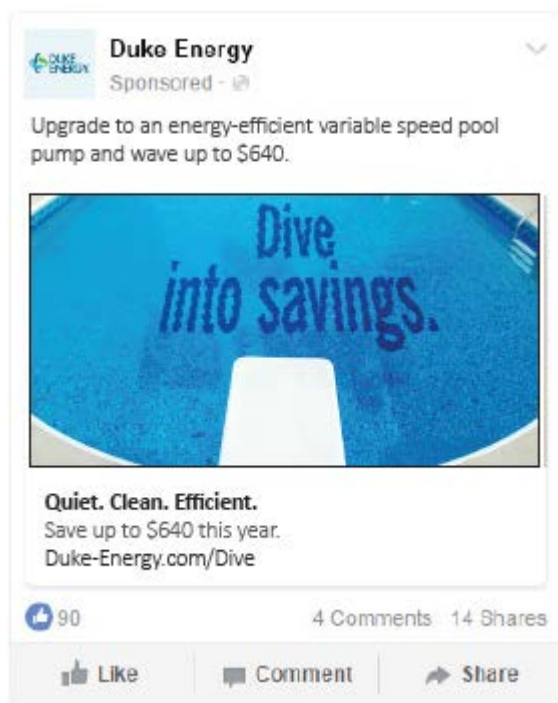
STEP 1:
Be a Duke Energy or Duke Energy Progress residential customer.

STEP 2:
Download rebate coupon now at [www.dukeenergy.com](#)

STEP 3:
Redeem digital coupon at register or online checkout.

Residential –Smart \$aver® Energy Efficiency Program

Residential PoolSocial Ad



Power Manager®

A. Description

Power Manager® ("Program") is a demand response program that cycles residential central air conditioning to ensure power reliability during high summer peak demand periods. Duke Energy Carolinas, LLC (the "Company") installs a load cycling device near the outdoor unit of a qualifying air conditioner. This enables the customer's air conditioner to be cycled off and on when the Company initiates a control event. During these events, the Company can perform cycling or full shed interruptions of participating customers' air conditioning systems at any time to mitigate capacity constraints in the generation, transmission or distribution systems.

Program participants receive a financial incentive as a bill credit in the amount of \$8 per month from July through October (\$32 annually).

The customer's air-conditioning system experiences no adverse impacts because the load control device has built-in safeguards to prevent the "short cycling" of the air-conditioning system. Cycling simply reduces the amount of time the air-conditioning system runs in a given period. Additionally, the indoor fan continues to run and circulate air during the cycling event.

Audience

The Program is available to the Company's residential customers residing in owner-occupied, single-family residences with a qualifying central air-conditioning unit.

B & C. Impacts, Participants and Expenses

PowerManager¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$74.7	\$79.0	106%
Program Cost	\$12.2	\$14.4	118%
MW²	503.3	535.4	106%
MWH	0.0	N/A	-
Units³	473,837	504,071	106%

Notes on Tables:

- 1) Values are reflected at the system level.
- 2) MW capability at the generator derived from the average reduction during the June - September control season achieved by a full shed of participating air conditioners.
- 3) Units included in filing represent average kW at the meter during the June - September control season. YTD value is based on an average of 269,557 Power Manager devices during the June - September control season.

D. Qualitative Analysis

Although there were no Power Manager events called in the summer of 2018 as the result of system capacity issues, three successful tests were conducted.

1. The first, conducted in May, was a 15-minute test of the program's full shed capability. This test was done in coordination with Duke Energy Carolinas' Energy Control Center (formerly known as the System Operations Center) to ensure system readiness as the summer began.
2. The second was another 15-minute full shed test conducted in early August. This test was initiated by the Demand Response team to gauge system response.
3. The final, an hour long cycling test initiated by the ECC in late August, was done for two purposes: 1) as a test for the ECC, and 2) to utilize smart meter interval usage data on the day of the test to improve the effectiveness of the Power Manager program. See below for more information

Power Manager®

In 2018, Duke Energy began using results from analysis of interval usage data collected from smart meters on Power Manager customers' homes during the July 13, 2017 cycling event. This analysis compared whole-house energy use before and during the event. Homes whose energy use did not change as expected were identified for follow up with a targeted field investigation.

Prior to this information being available, Duke Energy used a sample approach to conduct field investigations. Results from the targeted investigations are promising and will help reduce the number of and costs associated with field investigations, while improving the program's operational performance.

Following are several key comparisons of the targeted investigations with the prior sample approach:

- 30% of the investigations resulted in disconnected Power Manager devices being reconnected to customers' air conditioning systems – approximately three times more than before.
- 4% resulted in replacing a missing device; approximately twice as many as before.
- The percentage of devices that had failed was essentially unchanged.

Analysis of smart meter usage data for the late August 2018 test event will lead to targeted field investigations. Current plans are to have at least one event (actual or test) each summer to continue this practice. Results will be tracked and, if all goes as expected, this data will improve program performance by helping reduce costs and increasing the average KW reduction per device.

E. Marketing Strategy

Customers responded well to ongoing telephone marketing, placement in the January and April residential email newsletters, and an email offer in May. The April email newsletter featured the debut of two new videos designed to introduce Power Manager and explain how it works.

Over 18,900 new customers joined the Power Manager program in 2018, contributing to a net increase of 14,879 customers (+6.9%) and 18,152 air conditioners (+7%). At year-end 2018, there were 229,375 customers and 275,679 air conditioners on the program.

At the start of the summer season, Power Manager customers received postcards communicating the following:

- Reminding them of their participation in the program
- Thanking them for making a difference
- Explaining how Power Manager works, its benefits, tips and other information

Program information and an enrollment form are available to customers on the Power Manager website located at <http://www.duke-energy.com/north-carolina/savings/power-manager.asp>.

F. Evaluation, Measurement and Verification

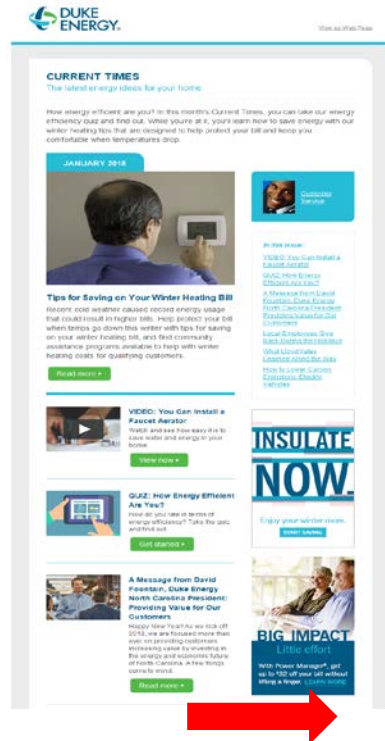
Results for the 2017 Power Manager evaluation were provided in the 2018 4th Quarter Collaborative. There were no Power Manager events held in the summer of 2018; therefore, the planned impact analysis which was to be performed by Navigant, was cancelled. In 2019, a full process and impact analysis with bi-weekly planning for EM&V targeted events will occur.

Power Manager®

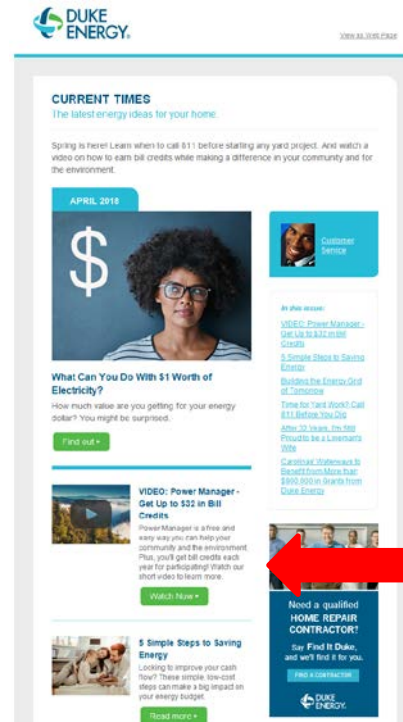
G. Appendix

Residential Email Newsletters

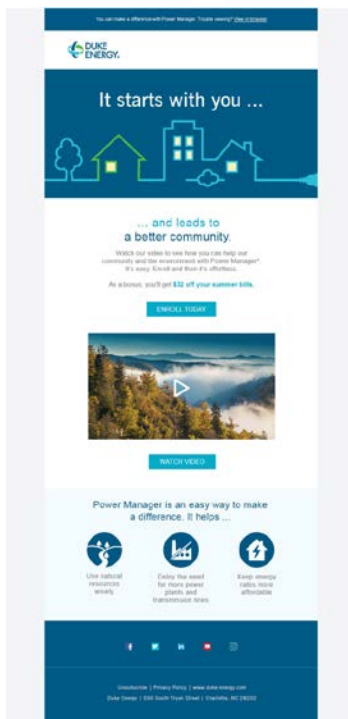
January



April

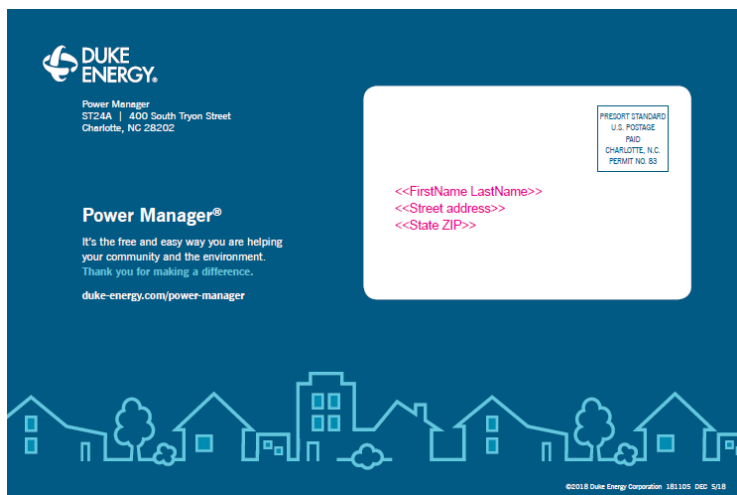


May Email



Power Manager®

Reminder/Thank You Postcard



By participating in Power Manager, you help:

- Use natural resources wisely
- Delay the need for more power plants and transmission lines
- Keep energy costs low for everyone

duke-energy.com/power-manager

How it works:
We've installed a small device near your AC unit, and during periods of unusually high demand (not on weekends or holidays*), we reduce the amount of energy your AC uses. You're helping your community and the environment. You also receive an \$8 bill credit on your July through October bills.

Tips during an event:
Close curtains and blinds to keep cool air inside. Don't do activities that produce a lot of heat (cooking, vacuuming, etc.). After an event, don't lower your thermostat in an attempt to cool your house faster, because it can lead to extra energy use and a higher bill.

Your participation matters:
During a single event last year, thanks to over 208,000 Power Manager customers, we reduced enough energy to power nearly 84,000 homes. Thank you!

For more information:

- To find out if a Power Manager event is underway, call **800.832.3169**.
- For questions or if your device is damaged or disconnected, call us at **888.463.5022** to service it for free.

*In case of an extremely rare system emergency, Power Manager may be activated at any time to avoid outages.

DUKE ENERGY.
BUILDING A SMARTER ENERGY FUTURE™

A. Description

The purpose of Duke Energy Carolinas, LLC's (the "Company's" or "DEC") Small Business Energy Saver program (the "Program") is to reduce energy usage through the direct installation of energy efficiency measures within qualifying small non-residential customer facilities. All aspects of the Program are administered by a single Company-authorized vendor. Program measures address major end uses in lighting, refrigeration, and HVAC applications.

Program participants receive a free, no-obligation energy assessment of their facility and a recommendation of energy efficiency measures along with the projected energy savings, costs of all materials and installation, and up-front incentive amount from the Company. If the customer decides to move forward with the proposed project, the customer will make the final determination of which measures will be installed. The vendor then schedules the measure installation by electrical subcontractors at a time convenient for the customer.

The Program is designed as a pay-for-performance offering, meaning that the Company-authorized vendor administering the Program is compensated only for energy savings produced through the installation of energy efficiency measures.

Audience

The Program is available to existing non-residential customers that are not opted-out of the Company's Energy Efficiency Rider. Program participants must have an average annual demand of 180 kW or less per active account.

B & C. Impacts, Participants and Expenses

Small Business Energy Saver¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$71.6	\$57.0	80%
Program Cost	\$17.6	\$16.0	91%
MW	17.1	13.4	78%
MWH	93,135.9	76,696.5	82%
Units²	75,800,000	73,493,029	97%

1) Values are reflected at the system level.

2) Units reflect gross kWh.

D. Qualitative Analysis**Highlights**

Lime Energy is the Company-authorized vendor administering the Program in both DEC and DEP service areas.

In 2018, the Program continued to be popular with the Company's small and midsize business customers, with over 2,000 Small Business Energy Saver projects completed though year end in DEC's North and South Carolina territories.

The Company has administered a customer satisfaction survey to Program participants since the Program's launch in DEC. Customers continue to respond very positively to the Program, with 87% of all survey participants in 2018 rating their overall satisfaction with the Program experience at an 8 or above (out of a 10 scale). Also, the majority of Program participants continue to respond that the Program has

improved their perceptions of Duke Energy, with 86% of responders indicating that the Program has had a positive effect on their overall satisfaction with the Company.

Issues

While LED lighting measures are expected to remain the primary driver of kWh savings in the Program for the foreseeable future, the Company has been actively working with our vendor Lime Energy to implement initiatives focused on increasing refrigeration and HVAC measure adoption.

Potential Changes

Moving into 2019, the Company implemented a modification to the Program incentive design to offer higher, tiered incentives for deep energy retrofit projects with multiple measure technologies, actively incentivizing customers to undertake efficiency upgrades beyond lighting. Ultimately, the Company would like for the Program to encourage customers to take on more comprehensive energy efficiency upgrades to maximize energy savings.

As the Program matures, the Company will continue to evaluate opportunities to add incentivized measures which fit the direct install program model and are suitable for the small business market.

E. Marketing Strategy

The Program is marketed primarily using the following channels:

- Lime Energy field representatives
- Direct mail (letters and postcards to qualifying customers)
- Duke Energy Carolinas website
- Social media and search engine marketing
- Email & Duke Energy Business E-Newsletters
- Direct marketing & outreach via Program administrator
- Outreach via Duke Energy Business Energy Advisors
- Community events

All marketing efforts are designed to create customer awareness of the Program, to educate customers on energy saving opportunities and to emphasize the convenience of Program participation for the target market.

F. Evaluation, Measurement and Verification

Evaluation activities began in the third quarter of 2017 and completed in the third quarter of 2018. Summary findings were presented at the 4th Quarter DEC/DEP Collaborative.

New process evaluation activities included a customer journey mapping exercise to assess the qualitative experience of the customer, and revealed key information such as loyalty, satisfaction, and frustrations with the program. These customer journey findings were used to refine the subsequent participant survey.

The impact evaluation included site visits to conduct field metering and verification. Other impact methodology included engineering estimates. Participant surveys determined free ridership and spillover as well as participant satisfaction with the program measures and the program overall.

Non-Residential Smart \$aver Prescriptive

A. Description

The Non-Residential Smart \$aver[®] Prescriptive Program ("Program") provides incentives to Duke Energy Carolinas, LLC's (the "Company's") commercial and industrial customers to install high efficiency equipment in applications involving new construction and retrofits and to replace failed equipment. The program also uses incentives to encourage maintenance of existing equipment in order to reduce its energy usage. Incentives are provided based on the Company's cost effectiveness modeling to ensure cost effectiveness over the life of the measure.

Commercial and industrial customers can have significant energy consumption but may lack an understanding of the benefits of high efficiency alternatives. The Program provides financial incentives to help reduce the cost differential between standard and high efficiency equipment, offer a quicker return on investment, save money on customers' utility bills so it can be reinvested in their businesses, and foster a cleaner environment. In addition, the Program encourages dealers and distributors (or market providers) to stock and provide these high efficiency alternatives to meet increased demand for the products.

The Program promotes prescriptive incentives for the following technologies – lighting, HVAC, pumps, variable frequency drives, food services, process and information technology equipment.

Audience

All of the Company's non-residential opt-in customers billed on an eligible Duke Energy Carolinas rate schedule may participate.

B & C. Impacts, Participants and Expenses¹

Non Residential Smart Saver Prescriptive¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$89.8	\$184.4	205%
Program Cost	\$21.3	\$28.1	132%
MW	14.9	33.0	222%
MWH	103,721.0	185,437.5	179%
Units	19,681,171	5,052,567	26%

1) Values are reflected at the system level.

Non Residential Smart Saver Energy Efficient Food Service Products¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$0.7	\$0.9	124%
Program Cost	\$0.2	\$0.2	150%
MW	0.1	0.1	88%
MWH	817.2	1,151.1	141%
Units	453	2,910	643%

1) Values are reflected at the system level.

¹ The information reflects results for the Non-Residential Smart \$aver Prescriptive program in aggregate. Reference the Appendix for results by technology.

Non-Residential Smart \$aver Prescriptive

Non Residential Smart Saver Energy Efficient HVAC Products¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$6.7	\$3.5	52%
Program Cost	\$1.8	\$1.6	89%
MW	2.0	0.9	45%
MWH	4,345.6	2,908.4	67%
Units	5,124,564	2,189,324	43%

1) Values are reflected at the system level.

Non Residential Smart Saver Energy Efficient Lighting Products¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$79.1	\$177.8	225%
Program Cost	\$18.5	\$25.9	140%
MW	12.4	31.5	254%
MWH	92,350.9	178,360.2	193%
Units	14,535,813	2,854,234	20%

1) Values are reflected at the system level.

Non Residential Energy Efficient Pumps and Drives Products¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$1.5	\$2.0	131%
Program Cost	\$0.4	\$0.3	72%
MW	0.3	0.4	138%
MWH	2,067.8	2,669.0	129%
Units	2,750	2,480	90%

1) Values are reflected at the system level.

Non Residential Energy Efficient ITEE¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$1.6	\$0.0	0%
Program Cost	\$0.4	\$0.0	10%
MW	0.0	0.0	0%
MWH	3,823.2	17.6	0%
Units	15,935	280	2%

1) Values are reflected at the system level.

Non Residential Energy Efficient Process Equipment Products¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$0.2	\$0.3	166%
Program Cost	\$0.1	\$0.1	100%
MW	0.0	0.1	242%
MWH	316.3	331.2	105%
Units	1,657	3,339	201%

1) Values are reflected at the system level.

Non-Residential Smart \$aver Prescriptive

D. Qualitative Analysis

Highlights

The Program has developed multiple approaches, including paper and online options for incentive payment applications and instant incentives through the midstream marketing channel and the Online Energy Savings Store, for reaching a broad, diverse audience of business customers.

Several 2018 program trends are listed below.

- Customers showed high interest in energy efficiency and had significant funds to invest in efficiency when rebates offset a portion of the cost. The program activity in 2018 exceeded target by 79%.
- More customers were drawn to the easy-to-use midstream marketing channel, which contributed half of the 2018 impacts.
- More applicants used the online application.
- Outreach continued to support Trade Allies working with the program.
- Targeted marketing reached out to customers and Trade Allies.
- A dedicated team of representatives answering customer questions via phone and email provided high levels of customer service.
- Large account management and Business Energy Advisors continue to leverage personal relationships with large and medium businesses to identify and support new EE projects.

Customers have several options for participating in the Program. The following chart summarizes 2018 participating customers by Program channel:

Program Option	Participating Customers*	% 2018 YTD Repeat Customer
Paper and Online Application Form	1,600	61%
Midstream Marketing Channel	12,508	59%
Online Energy Savings Store	730	49%

*May include multiple facilities/sites for one customer.

PAPER AND ONLINE APPLICATIONS

During 2018, the Company paid incentives for 2,755 applications, consisting of 6,543 measures. New application activity declined during the second half of 2018. During 2018, 61% of applications were submitted via the new online application portal. The average payment per paid application was \$4,435.

To overcome another barrier that can delay investment in EE projects, the Program launched an optional new process for customers to pre-verify equipment eligibility giving certainty that selected equipment qualifies for an incentive prior to purchase. In 2018, 821 applications for pre-qualification were approved in NC and SC.

Many Trade Allies participating in the application process reduce the customer's invoice by the amount of the Smart \$aver® Prescriptive incentive and then receive reimbursement from Duke Energy. Customers often prefer this method rather than paying the full equipment cost upfront and receiving an incentive check from Duke Energy.

Duke Energy utilizes an internal database that allows the Program to self-administer Program applications and track program data.

MIDSTREAM MARKETING CHANNEL

The midstream marketing channel provides instant incentives to eligible customers at a participating distributor's point of purchase. Approved midstream distributors validate eligible customers and selected lighting, HVAC, food service and IT products through an online portal and use that information to show customers the reduced price for high efficiency equipment. Upon purchase, the distributor reduces the customer's invoice for the eligible equipment by the amount of the Smart \$aver® Prescriptive incentive.

Non-Residential Smart \$aver Prescriptive

Distributors then provide the sales information to Duke Energy electronically for reimbursement. The incentives offered through the midstream channel are consistent with current program incentive levels.

Energy Solutions provides the online portal for distributors to manage the paperless validation and incentive application. During 2018, approximately 50% of the Smart \$aver impacts were from participation through the midstream marketing channel. Duke Energy currently has 238 distributors signed up for the midstream channel.

ONLINE ENERGY SAVINGS STORE

Duke Energy also offers the Business Savings Store on the Duke Energy website, with orders fulfilled by the third-party EFI. The site provides customers the opportunity to take advantage of a limited number of incentivized measures by purchasing qualified products from an online store and receiving an instant incentive in the form of a reduced purchase price. The incentives offered in the online store are consistent with current program incentive levels.

TRADE ALLY MANAGEMENT

Over the years, the Program has worked closely with Trade Allies to promote the program to our business customers at the critical point in time when customers are considering standard or high efficiency equipment options. In 2018 the number of TAs grew, there are now 2,936 energy-efficiency equipment vendors, contractors, engineers, architects and energy services providers who are based in the Carolinas and are registered as a Trade Ally with the Smart \$aver® Non-residential programs (prescriptive and custom). The Smart \$aver® outreach team builds and maintains relationships with Trade Allies in and around Duke Energy's service territory. Existing relationships continue to be cultivated while recruitment of new Trade Allies also remains a focus. Duke Energy's efforts to engage Trade Allies include the following activities:

- Trade Ally Search tool located on the Smart \$aver® website
- Inspections of a sample of all projects to ensure quality control
- Trade Ally co-marketing including information about the Smart \$aver program in the TA's marketing efforts
- Online application portal training and support
- Midstream channel support
- Trade Ally year-end awards
- Trade Ally quarterly newsletter
- Technology- and segment-specific marketing collateral
- Trade Ally discussion group (20 Trade Allies that give input on programs)
- Trade Ally training
- Sponsorship of trade ally events
- Online collateral toolkit for access to marketing materials

The Trade Ally outreach team educates Trade Allies on the program rules and the Smart \$aver Program expectations for Trade Ally conduct.

The Company continues to look for ways to engage the Trade Allies in promotion of the Program and to target Trade Allies based on market opportunities.

Issues

Feedback from participating customers and Trade Allies is positive overall but provides some insight into the barriers to participation in the program. Less than 5% of surveyed customers report dissatisfaction with the program. Reasons for dissatisfaction include unhappiness with the 90-day time limit to submit an application, communications issues, and changes to eligible products. Less than 10% of surveyed Trade Allies report dissatisfaction with the program, with the most frequent reasons offered that applications are too complex and incentive payment too slow. In response, the Program continues to work to improve communications, application forms and processing, as well as promote channels that do not require complex paperwork and offer faster incentive payment. Some Trade Allies cite competition with the vendor

Non-Residential Smart \$aver Prescriptive

implementing Small Business Energy Saver although competition is not intended in the programs' designs. Duke Energy also continues to reach out to those customers who have not yet participated in the Smart \$aver® program.

Recently, the combination of the Program's incentives and the falling prices for LED equipment has been very attractive for customers and many have taken advantage of the opportunity to invest in LED upgrades. While there is still significant opportunity for high efficiency lighting, the excitement around LEDs has taken customers' attention away from EE opportunities outside of lighting. The Program has continued to promote non-lighting EE and encourage customers to go beyond lighting for efficiency projects. The Company continues to work with outside consultants and internal resources to develop strategies to understand equipment supply/value chains and increase awareness of these measures going forward.

Potential Changes

Standards continue to change and new, more efficient technologies continue to emerge in the market. Duke Energy periodically reviews major changes to baselines, standards, and the market for equipment that qualifies for existing measures and explores opportunities to add measures to the approved Program for a broader suite of options. A review is underway now and may initiate changes to a limited number of new measures and measure updates. When existing measures change, such as when a measure is removed or an incentive amount is reduced, customers have a 90-day grace period to apply for the past measure or incentive amount.

Duke Energy is considering new and innovative ways to reach out to customer segments that have had a lower rate of prescriptive incentive applications and to partner with other Duke Energy EE programs to cover gaps in the market. Additionally, the Program is planning to add limited quantities of new low-cost measures with no out-of-pocket costs to customers in 2019.

E. Marketing Strategy

Nonresidential customers learn of programs via targeted marketing material and communications. The 2018 marketing plan included direct marketing such as email and direct mail, online marketing, print marketing and supporting partnerships. The marketing team has selected a highlighted topic for each month and promotes coordinated communication around that topic.

The internal marketing channel consists of assigned Large Business Account Managers, small and medium Business Energy Advisors, and Local Government and Community Relations, who all identify potential opportunities as well as distribute program informational material to customers and Trade Allies. Duke Energy has two Business Energy Advisors in the Carolinas area to perform outreach to unassigned small and medium business customers. The Business Energy Advisors follow up on customer leads, assist with program questions, and steer customers who are not already working with a trade ally to the trade ally search tool. In addition, the Business Energy Advisors contact customers with revenue between \$60,000 and \$250,000 to promote the Smart \$aver® programs.

The Economic and Business Development groups also provide a channel to customers who are new to the service territory.

The following chart summarizes the campaigns during 2018. Example images are found on the following pages.

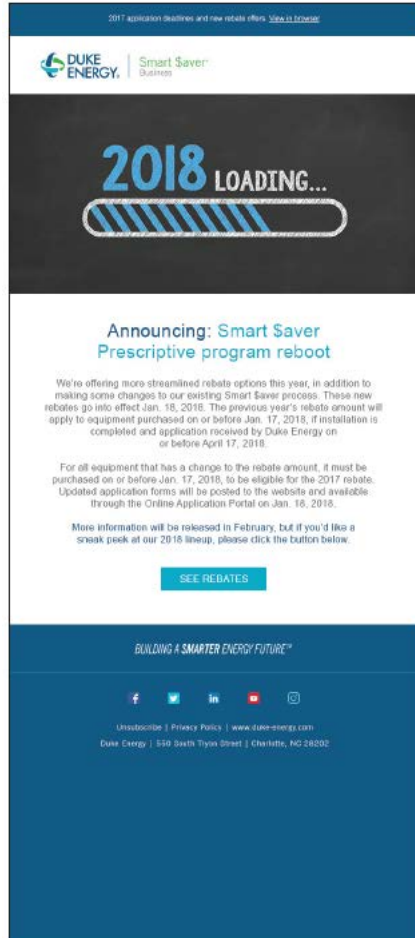
Month	Channel	Audience	Incentives Highlighted
January	Email	All Business Customers	Program Changes Teaser
February	Email	Commercial Real Estate	Good Better Best (All Measure Categories)

Non-Residential Smart \$aver Prescriptive

February	Email, Direct Mail	All Business Customers	Program Changes Announcement
March	Email	Manufacturing Customers	Good Better Best (All Measure Categories)
March	Email, Direct Mail	Commercial Real Estate, Lodging, Restaurants	Commercial Cooking Equipment
March	Email	Previous Program Participants	Smart \$aver Tools
April	Email	Lodging Customers	Good Better Best (All Measure Categories)
April	Email, Direct Mail	All Small Business Customers	Commercial Refrigerator, Clothes Washer and Clothes Dryer
May	Email	Education Customers	Good Better Best (All Measure Categories)
May	Email	All Assigned Customers	Custom Tools
June	Email, Direct Mail	All Business Customers	Online Application Portal
August	Email	All Business Customers	Website Refresh
September	Email	All Business Customers	Rapid Payback (HVAC)
October	Email	All Business Customers	Rapid Payback (Operations & Maintenance)
October	Email	All Business Customers	Rapid Payback (Food Service)
October	Email	All Business Customers	Rapid Payback (Lighting)
November	Email	All Business Customers	Exterior Lighting

Non-Residential Smart \$aver Prescriptive

January Program Changes Teaser – Email



Non-Residential Smart \$aver Prescriptive

March Good Better Best (Manufacturing) Campaign – Email

More cash-back offers for manufacturers like you. Trouble viewing? [View in browser](#)

DUKE ENERGY | Smart \$aver Business

GOOD BETTER BEST

Maximize your energy efficiency.
We've got savings offers of all sizes.

Energy efficiency pays. To date, we've paid more than \$20 million in rebate and incentive checks to manufacturing customers like you for installing energy-efficient systems such as building controls, compressed air, chilled water and refrigeration equipment.

We're featuring a few of our cash-back offers here, but visit our website to explore a variety of savings options tailored specifically to your line of business.

[SHOW ME MORE](#)

Three ways to save:

- GOOD**
Use engineered nozzles to reduce compressed air usage
- BETTER**
Use efficient air system + lighting occupancy sensors
- BEST**
Do both of these + optimize process cooling efficiency

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Landing Page - <https://www.duke-energy.com/customer-landing-pages/good-better-best-mfg>

Non-Residential Smart \$aver Prescriptive

April Small Business Week Campaign – Email and Direct Mail (DM below)




DUKE ENERGY | Smart \$aver[®] Business
12345 | 400 South Tryon Street
Charlotte, NC 28202


Small business?
Get ready to save big.

First_name Last_name
Company_name
Mailing_address
City, State Zip

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BIG SAVINGS
for small
(but mighty)
business.




SAVE BIG
DURING SMALL
BUSINESS WEEK.

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From the front door to the break room, we have great offers for businesses just like yours. These energy-efficient solutions are easy to install and will help you reduce overall energy usage. Plus, we offer deep discounts and rebates on select products.

So what are you waiting for?

Start saving today at
duke-energy.com/SmallButMighty.



★ SIX MIGHTY OFFERS FOR YOUR BUSINESS ★

 <p>NEST THERMOSTAT Get \$50 off this Wi-Fi-enabled thermostat that learns your favorite settings.</p>	 <p>REFRIGERATORS Use less energy. Get up to \$50 per refrigerator.</p>	 <p>VENDINGMISER Vending machines run 24/7. But you can get energy savings up to \$150 for each one.</p>
 <p>COMMERCIAL CLOTHES DRYER Get top-notch performance and up to \$80 per dryer.</p>	 <p>COMMERCIAL CLOTHES WASHER Save with every load and get up to \$40 per washing machine.</p>	 <p>TRICKLESTAR 7-OUTLET ADVANCED POWER STRIP Help safeguard your equipment from power surges and lower your energy bill.</p>

Non-Residential Smart \$aver Prescriptive

May Custom Awareness – Email

The email content is as follows:

Smart \$aver Custom tools. At your fingertips. Trouble viewing? [View in browser](#)

DUKE ENERGY

SMART \$AVER TOOLS | FAST TRACK | PERFORMANCE | REFERENCE GUIDE

Everything you need to unlock custom incentives. Right at your fingertips.

Smart \$aver Custom Incentives help offset the upfront cost of making energy-efficiency upgrades in your business. Take advantage of our helpful tools and resources to complete your application and move one step closer toward earning cash back incentives from Duke Energy.

[START NOW](#)

Tools and resources you can use to advance your project.

FAST TRACK	PERFORMANCE
Get an application approval in just seven business days.	Get paid based on actual measured performance.
REFERENCE GUIDE	SMART \$AVER TOOLS
Review requirements and cover all your bases.	Estimate energy savings and incentive amounts.

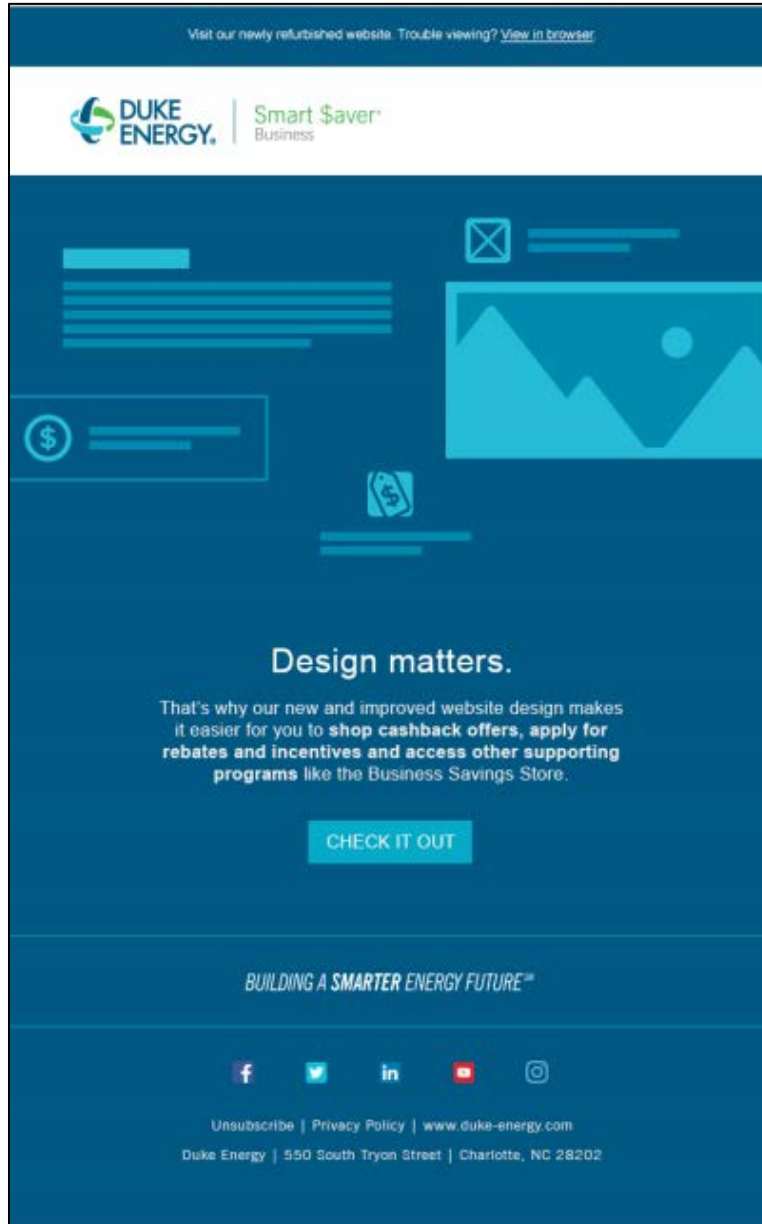
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Non-Residential Smart \$aver Prescriptive

August Website Refresh – Email



Non-Residential Smart \$aver Prescriptive

September Rapid Payback Campaign (HVAC) – Email

We've got easy, low-cost tips to help. Tired of viewing? View 3/1/2019

DUKE ENERGY | **Smart \$averSM**
Business

4 TIPS TO SAVE BIG.

HVAC

Does tip #3 surprise you?

There are some energy-saving routines that aren't just good – they're the best. That's what we've based these tips on – best practices from leading ENERGY STAR[®] affiliates who know how to lower energy costs by investing time and a little effort for big savings.

This email is the first in a series about how to quickly maximize your return on investment with energy efficiency upgrades. This one is focused on tips to help you make the most of your heating, ventilation and air conditioning (HVAC) system.

START SAVING

Saving has never been easier:

#1

Weatherstripping

Plug air leaks with weatherstripping and caulking, and remove any furniture in front of vents for improved air circulation.

#2

VFDs and motor controls

Install variable frequency drives (VFDs) and other motor controls. Once installed, you may qualify for rebates and incentives to help with installation costs.

More tips to help you save – and get cash back:

#3

Window film and reflective roof

Install window films, additional insulation or reflective cool roof coating to keep warm or cool air from escaping. We offer rebates and incentives for this as well.

#4

Equipment upgrade

Replace chillers, retrofit or install energy-efficient equipment and upgrade boilers, with the option to apply for cashback help from us.

<https://www.energy.gov/buildingfortheclimateandmanagingbuildingefficiency/energytipsandenergyweek>

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Non-Residential Smart \$aver Prescriptive

October Rapid Payback Campaign (Food Service) – Email

We've got quick, low-cost tips to help. Trouble viewing? [View in browser](#)

DUKE ENERGY | Smart \$averSM
Business

3 TIPS TO SAVE BIG. FOOD SERVICE

You do not want to miss tip #2!

This email is our third in a series, helping you save energy and money for your business – while getting the most bang for your buck. Here we bring you tools and resources to help you make the most of your food service equipment, with some tips from the leading ENERGY STAR[®] specialists.

If you missed our first (HVAC) or second (operations) emails in the savings series, you can still find them by requesting them online.

[START SAVING](#)

Low-cost tips and tools:

#1

EQUIPMENT

Purchase ENERGY STAR certified commercial food service equipment. Certified units such as refrigerators, freezers and fryers can save hundreds of dollars in energy costs each year.

#2

CLEAN COILS

Clean refrigerator coils twice a year and replace door gaskets if a dollar bill easily slips out when closed between the door's seals.

#3

RETROFIT

Consider retrofitting existing refrigerators and display cases with anti-sweat door heater controls, as well as variable-speed evaporator fan motors and controls.

<https://www.energystar.gov/buildings/facility-services-and-storage/building-buildingshow-energytips-and-energy-tools>

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Non-Residential Smart \$aver Prescriptive

November Exterior Lighting – Email

Upgrade to LED exterior lighting + earn rebates. Trouble viewing? [View in browser](#)

DUKE ENERGY | Smart \$averSM
Business






**You've just changed your clocks.
Now it's time to upgrade to
high-efficiency LED exterior lighting.**






Plus, see how you can earn cash back with our
generous prescriptive rebate offers.

MAKE THE SWITCH

**Why LED is an ideal choice
for exterior lighting:**

- 
**MORE ENERGY
EFFICIENT**
Use up to 50% less
electricity than
traditional bulbs.
- 
**LONGER
LIFE SPAN**
Quality LEDs
typically last
30,000-50,000
hours.
- 
**SAVINGS AND
CONTROL**
Install lighting
controls. Dim or turn
off lights according
to daylight.

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Non-Residential Smart \$aver Prescriptive

F. Evaluation, Measurement and Verification

Evaluation planning is underway for a combined DEC/DEP evaluation, consisting of an impact and process evaluation. Preliminary evaluation plans include estimating the savings for the NR Prescriptive Mid-Stream Channel, which will be the first evaluation for this channel. The tentative delivery schedule for a final report is the first quarter of 2020.

G. Appendix

Non Residential Smart Saver Energy Efficient Food Service Products¹

<u>\$ in millions, rounded</u>	Vintage 2017 As Filed	Vintage 2017 YTD December 31, 2017	% of Target
NPV of Avoided Cost	\$2.6	\$1.6	61%
Program Cost	\$0.8	\$0.3	39%
MW	0.4	0.2	54%
MWH	3,968.3	2,257.3	57%
Units	5,293	2,730	52%

1) Values are reflected at the system level.

2) Numbers rounded.

Non Residential Smart Saver Energy Efficient HVAC Products¹

<u>\$ in millions, rounded</u>	Vintage 2017 As Filed	Vintage 2017 YTD December 31, 2017	% of Target
NPV of Avoided Cost	\$7.5	\$3.4	45%
Program Cost	\$3.3	\$1.6	47%
MW	2.8	1.0	37%
MWH	6,253.8	3,382.7	54%
Units	121,841	3,016,407	2476%

1) Values are reflected at the system level.

2) Numbers rounded.

Non Residential Smart Saver Energy Efficient Lighting Products¹

<u>\$ in millions, rounded</u>	Vintage 2017 As Filed	Vintage 2017 YTD December 31, 2017	% of Target
NPV of Avoided Cost	\$41.4	\$193.3	467%
Program Cost	\$11.1	\$66.7	601%
MW	11.3	33.0	292%
MWH	68,582.5	229,728.9	335%
Units	245,765	2,290,141	932%

1) Values are reflected at the system level.

2) Numbers rounded.

Non-Residential Smart \$aver Prescriptive

Non Residential Energy Efficient Pumps and Drives Products¹

<u>\$ in millions, rounded</u>	Vintage 2017 As Filed	Vintage 2017 YTD December 31, 2017	% of Target
NPV of Avoided Cost	\$2.7	\$2.2	83%
Program Cost	\$0.7	\$0.5	71%
MW	0.6	0.5	83%
MWH	4,745.7	3,470.7	73%
Units	4,347	4,361	100%

1) Values are reflected at the system level.

2) Numbers rounded.

Non Residential Energy Efficient ITEE¹

<u>\$ in millions, rounded</u>	Vintage 2017 As Filed	Vintage 2017 YTD December 31, 2017	% of Target
NPV of Avoided Cost	\$1.4	\$0.0	0%
Program Cost	\$0.4	\$0.1	15%
MW	0.0	0.0	0%
MWH	3,184.7	3.3	0%
Units	2,613	45	2%

1) Values are reflected at the system level.

2) Numbers rounded.

Non Residential Energy Efficient Process Equipment Products¹

<u>\$ in millions, rounded</u>	Vintage 2017 As Filed	Vintage 2017 YTD December 31, 2017	% of Target
NPV of Avoided Cost	\$0.7	\$0.4	60%
Program Cost	\$0.1	\$0.2	157%
MW	0.1	0.1	66%
MWH	564.1	577.6	102%
Units	1,509	8,936	592%

1) Values are reflected at the system level.

2) Numbers rounded.

Non-Residential Smart \$aver® Custom Assessment

A. Description

Duke Energy Carolinas, LLC's (the "Company's") Non-Residential Smart \$aver® Custom Assessment (the "Program") offers financial assistance to qualifying commercial, industrial, and institutional customers to help fund an energy assessment and retro-commissioning design assistance in order to identify energy efficiency conservation measures of existing or new buildings or systems. The detailed study and subsequent list of suggested energy efficiency measures help customers to utilize the Non-Residential Smart \$aver® Custom. The Program delivers a detailed energy report that includes the technical data needed for the Non-Residential Smart \$aver® Custom Program and assistance with the Non-Residential Smart \$aver® Application. All kWh and kW savings identified from measures implemented as a result of the pre-qualified assessments are attributed to Smart \$aver Custom Program.

The intent of the Program is to encourage energy efficiency projects that would not otherwise be completed without the Company's technical and financial assistance. The Program's application requires pre-qualification for eligibility. Assessments are performed by professional engineering firms pre-selected and contracted by the Company. The current engineering firms are The Weidt Group, APTIM and ThermalTech Engineering, Inc. All firms offer a diversified set of skills that support all qualifying commercial, industrial, and institutional customers.

The program was modified in 2017 to allow customers to choose one of the firms the Company contracted or to seek third party engineering assistance of their own selection and receive the same financial assistance. Pre-established criteria ensuring that the Program maintains high standards for engineering and work quality must be met for the funds to be released. This modification, which provided customers with more flexibility and choices, is expected to drive an increase in participation.

In 2019, the program is modifying its approach again by utilizing a "virtual" approach to the assessment. Using energy modeling software called NEO from The Weidt Group and collecting all building information remotely will allow the audit to be completed in 2-3 weeks for less cost. Each audit will have a fixed cost of \$5,000 of which the customer will be responsible for 50%. The virtual audit will not be applicable to buildings with process loads such as manufacturers. Audits of buildings with process loads will continue to be performed by Aptim and Thermaltech or the customer's vendor of choice. With the new methodology, the goal is to perform 30-50 assessments on an annual basis.

Audience

Pre-qualified non-residential electric customers, except those that choose to opt out of the Program, are eligible.

B & C. Impacts, Participants and Expenses

Non Residential Smart Saver Custom Technical Assessments¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$12.9	\$0.1	1%
Program Cost	\$2.1	\$0.4	19%
MW	2.3	0.0	1%
MWH	20,322.2	83.6	0%
Units	13,248	218	2%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

Participation in 2018 declined. Overall, 59 customers have completed an application for an energy assessment. Of these, 36 chose to switch to the Small Business Energy Saver Program because that

Non-Residential Smart Saver® Custom Assessment

program fit the customer's needs better. Seven assessments were completed with 2 Custom projects in progress and 3 customers deciding whether to proceed.

E. Marketing Strategy

The marketing strategy for the Program is to work with those customers that need technical and financial assistance as a companion to their internal resources. Given the facility-wide approach, many of the energy savings opportunities are complex and interactive in nature which fits well with the end-to-end involvement utilized in the Program. Typical customer marketing activity involves direct marketing from Business Account Managers, electronic postcards, e-mails, and information attained through the Company's website and direct customer inquiries. Marketing in the future may shift as the virtual modeling software becomes more applicable. The opportunity to receive a quick readout of a building's efficiency level for a nominal cost will be a compelling message to Duke Energy customers.

F. Evaluation Measurement and Verification

No evaluation activities occurred in 2018.

Non-Residential Smart \$aver® Custom

A. Description

Duke Energy Carolinas, LLC's (the "Company's") Non-Residential Smart \$aver® Custom Incentives (the "Program") offers financial assistance to qualifying commercial, industrial and institutional customers (that have not opted-out) to enhance their ability to install cost-effective electrical energy efficiency projects.

The Program is designed to meet the needs of the Company's customers with electrical energy saving projects involving more complicated or alternative technologies, or with measures not covered by the Non-Residential Smart \$aver Prescriptive Program. The intent of the Program is to encourage energy efficiency projects that would not otherwise be completed without the Company's technical or financial assistance.

Unlike the Non-Residential Smart \$aver Prescriptive Program, the Program requires pre-approval prior to the project initiation. Proposed energy efficiency measures may be eligible for customer incentives if they clearly reduce electrical consumption and/or demand.

The two approaches for applying for incentives for this Program are Classic Custom and Custom-to-Go. Each approach has a method by which energy savings are calculated, but the documents required as part of the application process vary slightly between the two.

Currently the application forms listed below are located on the Company's website under the Smart \$aver® Incentives (Business and Large Business tabs).

- Custom Application, offered in word and pdf format.
- Energy savings calculation support:
 - Classic Custom excel spreadsheet approach (> 700,000 kWh or no applicable Custom-to-Go calculator)
 - Lighting worksheet (excel)
 - Variable Speed Drive (VFD) worksheet (excel)
 - Compressed Air worksheet (excel)
 - Energy Management System (EMS) worksheet (excel)
 - General worksheet (excel), to be used for projects not addressed by or not easily submitted using one of the other worksheets
 - Custom-to-Go Calculator approach (< 700,000 kWh and applicable Custom-to-Go calculator)
 - HVAC & Energy Management Systems
 - Lighting (no project size limit)
 - Process VFDs
 - Compressed Air

The Company contracts with AESC to perform technical review of applications. All other program implementation and analysis is performed by Duke Energy employees or direct contractors.

Audience

All of the Company's non-residential electric accounts billed on eligible rate schedules, except those that choose to opt-out of the Program, are eligible.

Non-Residential Smart Saver® Custom

B & C. Impacts, Participants and Expenses

Non Residential Smart Saver Custom¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$60.6	\$28.2	47%
Program Cost	\$12.1	\$6.1	50%
MW	10.9	4.1	37%
MWH	95,315.6	30,333.0	32%
Units	62,136	23,345	38%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

Customers continue to identify energy efficiency opportunities eligible for incentives under this Program. In 2018, 287 new pre-approval applications were submitted. However, the Program has seen and more small projects than large ones, resulting in an overall decrease in kWh savings.

Smart Saver Custom Incentives program uses a flat rate incentive for both energy and demand savings.

Efforts to educate trade allies and vendors who sell energy efficient equipment have been very successful. In many cases, vendors will submit the paperwork for the customer, eliminating a barrier for customers that do not have the resources to devote to completing the application.

The Program launched a fast track option for 2017 which gives customers the ability to pay a fee to speed up their application processing time to seven business days. This fee is passed through to the vendor for its cost to expedite the application.

In March of 2018, lighting and HVAC tools migrated from the Custom To Go platform to the new Smart Saver Tool web platform with plans to migrate the remaining tools later in 2018. Currently, for the lighting tool only, the customer is able to submit one file for both Prescriptive and Custom reducing some of the customer's administrative burden. To date DEC has received 12 combined lighting applications.

Issues

The Program application process is considered burdensome by some customers due to the individual and technically intensive review required for all projects applying for a custom incentive. Each year, Program staff explores ways to reduce the length of the application. By streamlining processes, the average processing time has dipped to 17 days for all states/jurisdictions.

The technical review often requires customers (or their vendors) to quantify the projected energy savings from the proposed project. This process can be lengthy and may require some level of engineering expertise. Where necessary, this requirement will continue, thus ensuring that incentives are being paid for cost-effective verifiable efficiency gains. Indications are that the Custom-to-Go suite and online application portal have relieved some of this burden.

The custom program is subject to large fluctuations in performance due to the importance of a small number of large projects. Although the number of small projects is significant compared to the number of large projects, the large projects drive the majority of annual impacts.

Non-Residential Smart Saver® Custom

The custom program is still limited by customers who are opted out of the EE Rider. Those customers who are opted out are not eligible to participate and any projects completed by those customers are lost opportunities. The custom program is actively working with internal resources (large account managers and Business Energy Advisors) to determine if opting in to the EE Rider for a potential project is the best option for customers currently opted out.

Finally, the custom program continues to see changes in available technologies as specific measures become eligible for Smart Saver Prescriptive.

Potential Changes

The Custom program continues to evaluate additional improvements to enhance participation, processing speed and program efficiency.

E. Marketing Strategy

The Company will continue the Program marketing efforts in 2019 through various marketing channels that include but are not limited to the following:

- Direct mail (letters and postcards to qualifying customers)
- Duke Energy website
- Community outreach events
- Small Business Group outreach events
- Paid advertising/mass media
- Social media promotions
- Trade ally outreach
- Account managers
- Business Energy Advisors

These marketing efforts are designed to create customer awareness of the Program, to educate customers on energy saving opportunities, and to emphasize the convenience of Program participation.

Non-residential customers learn of programs via targeted marketing material and communications. Information about incentives is also distributed to trade allies who sell equipment and services to all sizes of nonresidential customers. Large business or assigned accounts are targeted primarily through Company account managers. Unassigned small to medium business customers are supported by the Company's Business Energy Advisors. The Business Energy Advisors follow up on customer leads, assist with program questions, and steer customers who are not already working with a trade ally to the trade ally search tool. In addition, the Business Energy Advisors promote the program to customers with electrical costs between \$60,000 and \$250,000.

The internal marketing channel consists of Large Business Account Managers and Local Government and Community Relations who all identify potential opportunities as well as distribute program informational material to customers and trade allies. In addition, the Economic and Business Development groups also provide a channel to customers who are new to the service territory.

The Program launched a new marketing channel in 2017 called New Construction Energy Efficiency Design Assistance (NCEEDA) to identify energy efficiency projects for customers currently underserved in the SMB market. This channel will utilize the vendor Weidt Group to help identify those opportunities, complete savings calculations, and submit applications for the customer. As of January 20, 2019, DEC has 156 projects enrolled in the NCEEDA offering, representing 14.3 million square feet of area. Of these, the 98 Smart Saver Custom project applications represent 32.8 million kWh of energy savings.

Non-Residential Smart \$aver® Custom

F. Evaluation, Measurement and Verification

An impact and process combined DEC/DEP evaluation was completed in the fourth quarter of 2018 and presented at the 4th Quarter DEC/DEP Collaborative. Methodologies to verify savings included desk reviews, onsite verification and billing analyses. Participant surveys helped establish net-to-gross.

Process evaluation activities included participant surveys and trade ally interviews. Key objectives for the process evaluation were to determine opportunities to improve program operations as well as gauge customer satisfaction with the program overall.

Non-Residential Smart \$aver® Performance Incentive

A. Description

Duke Energy Carolinas, LLC's (the "Company's") Non-Residential Smart \$aver® Performance Incentives (the "Program") offers financial assistance to qualifying commercial, industrial and institutional customers (that have not opted-out) to enhance their ability to install cost-effective electrical energy efficiency projects.

The Program is designed to encourage the installation of high efficiency equipment in new and existing nonresidential establishments as well as the performance of efficiency-related repair activities designed to maintain or enhance efficiency levels in currently installed equipment. The Program provides incentive payments to offset a portion of the higher cost of energy efficient installations that are not eligible under either the Smart \$aver® Prescriptive or Custom programs. The types of measures covered by the Program include projects with some combination of unknown building conditions or system constraints or uncertain operating, occupancy, or production schedules. The specific type of measures are agreed upon with the Customer. The Program is delivered in close coordination with the existing Custom program team and shares resources for administrative review and payment processing. The Program requires pre-approval prior to project initiation.

The intent of the Program is to broaden participation in the Company's non-residential efficiency programs by providing incentives for projects that previously were deemed too unreliable to calculate an acceptably accurate savings amount predictively and, therefore, were not offered incentives. The program is also expected to provide a platform for gaining a better understanding of new technologies.

The key difference between the Performance Incentive Program and the Custom Program is that the customers in the Performance Incentive Program are paid incentives based on actual measured performance. For each project, a plan is developed to verify the actual performance of the project once completed and is the basis for the performance portion of the incentive.

The Program incentives will typically be paid out in the following manner, though payment installment quantities and timing may vary:

- Incentive #1: For the portion of savings that are expected to be achieved with a high degree of confidence, an initial incentive will be paid. This incentive is paid once installation is complete.
- Incentive #2: After performance is measured and verified, the performance-based part of the incentive will be paid out as follows:
 - If performance exceeds expectations, the incentive payout may be larger.
 - If performance does not meet expectations, the incentive payout may be smaller.

Application forms for applying for incentives are located on the Company's website.

The Company contracts with Alternative Energy Systems Consulting, Inc. (AESC) to perform technical review of applications. All other program implementation is performed by Duke Energy employees or direct contractors.

Audience

All of the Company's non-residential electric accounts billed on eligible rate schedules, except those that choose to opt-out of the Program, are eligible.

Non-Residential Smart \$aver® Performance Incentive

B & C. Impacts, Participants and Expenses

Non Residential Smart Saver Performance Incentive¹

<i>\$ in millions, rounded</i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$3.6	\$2.0	55%
Program Cost	\$1.0	\$0.5	48%
MW	0.7	0.2	26%
MWH	5,706.0	3,271.2	57%
Units	6,174,765	118	0%

1) Values are reflected at the system level.

D. Qualitative Analysis

Highlights

As new technologies are introduced and changes occur in the energy efficiency marketplace, performance incentives are the perfect tool to influence and reward customers who invest in energy efficiency. The Smart \$aver Performance Incentives program was launched on January 1, 2017. Efforts to encourage internal resources, trade allies and vendors who sell energy efficient equipment to promote the Program and assist customers to participate are continuous and on-going. In addition, the Program is marketed closely with the Smart \$aver Custom Program.

In DEC, the program is beginning to reap the fruits of its marketing efforts as program participation increases significantly. Currently, DEC has

- 23 enrolled projects
- 138 individual project sites
- 22 million potential kWh of savings (realization of kWh savings impacts will occur over multiple years: 2018-2022)

The program experiences large fluctuations in performance due to long project lead times, long monitoring and verification times, and the timing and sizes of projects. With a compelling value proposition and internal resources and trade allies getting comfortable with this unique program offering, participation is expected to continue to be strong.

Issues

No issues have been observed at this time. However, program management is monitoring a few areas of interest.

- The preferred method for measurement and verification of performance is gathering, monitoring and analyzing customer billing history. However, energy savings are not significant enough at times to evaluate effectively through the review of billing information. If this is the case, sub-metering is required at the customer's expense and may be a hurdle due to the time and expense of monitoring and verifying savings.
- The Performance program cannot be offered to customers who are opted out of the EE Rider. Performance projects can easily carryover into multiple calendar years because of the monitoring and verification requirement, a situation which could make opting in more difficult to justify.
- Customers may not participate because of the risk of measured energy savings being less than expected and resulting in a smaller incentive payout.

Non-Residential Smart \$aver® Performance Incentive

Potential Changes

The Company continuously considers functional improvements to enhance participation, processing speed and program efficiency.

E. Marketing Strategy

The 2019 marketing strategy for the Smart \$aver Performance Incentive Program closely aligns with the Custom Program. The goal is to educate the Company's non-residential customers about the technologies incentivized through both programs, as well as the benefits of installing energy-efficient equipment. These efforts encompass a multi-channel approach including but not limited to the following:

- Email (targeted customers)
- Direct Mail (letters to qualified/targeted customers)
- Duke Energy Carolinas website
- Community outreach events
- Print advertising/mass media
- Target customer outreach
- Industry Associations
- Large Account Managers
- Business Energy Advisors
- Trade Ally Outreach

Marketing efforts are designed to create customer awareness of the Program, to educate customers on opportunities to save energy, and to emphasize the convenience of Program participation.

Non-residential customers learn of programs via targeted marketing material and communications. Information about incentives is also distributed to trade allies who sell equipment and services to all sizes of nonresidential customers. Large business or assigned accounts are targeted primarily through Company account managers. Unassigned small to medium business customers are supported by the Company's Business Energy Advisors. The Business Energy Advisors follow up on customer leads, assist with program questions, and steer customers who are not already working with a trade ally to the trade ally search tool. In addition, the Business Energy Advisors contact customers with electrical costs between \$60,000 and \$250,000 to promote the program.

The internal marketing channel consists of Large Business Account Managers, Business Energy Advisors, and Local Government and Community Relations who all identify potential opportunities as well as distribute program informational material to customers and trade allies. In addition, the Economic and Business Development groups also provide a channel to customers who are new to the service territory.

F. Evaluation, Measurement and Verification

Due to program launch in January 2017, no evaluation activities occurred in 2018. Future evaluation timing will depend upon sufficient participation.

A. Description

PowerShare® (“Program”) is a demand response program offered to commercial and industrial customers. The Program is comprised of Mandatory (“PS-M”), Generator (“PS-G”), Voluntary (“PS-V”) and CallOption options, and customers can choose from a variety of offers. Under PS-M, PS-G and CallOption, customers receive capacity credits for their willingness to shed load during times of peak system usage. Energy credits are also available for participation (shedding load) during curtailment events. The notice to curtail under these offers can be rather short (15-30 minutes), although every effort is made to provide as much advance notification as possible. Failure to comply during an event could result in penalties.

Audience

The Program is offered to Duke Energy Carolinas, LLC’s (the “Company’s”) non-residential customers who have not opted-out and are able to meet the load shedding requirements.

B & C. Impacts, Participants and ExpensesPowerShare¹

<i><u>\$ in millions, rounded</u></i>	Vintage 2018 As Filed	Vintage 2018 YTD December 31, 2018	% of Target
NPV of Avoided Cost	\$57.3	\$49.1	86%
Program Cost	\$15.0	\$12.9	86%
MW²	388.0	332.6	86%
MWH	0.0	N/A	-
Units³	365,308	313,157	86%

Notes on Tables:

- 1) Values are reflected at the system level.
- 2) MW capability derived by taking average over specific PowerShare contract periods.
- 3) Units included in filing represented KW at meter, rather than number of participants. The average participation for 2018 was 161.

D. Qualitative Analysis**Highlights**

PS-M and PS-G continue to be well received by customers who have the flexibility to curtail load upon request in both North Carolina and South Carolina. Although several new participants joined the PowerShare program in 2018, the gains were offset by the loss of existing participants, including the closure of a major textile mill and the termination of two contracts due to repeated failure to comply during curtailment events. The Company dispatched the program twice in January 2018 due to high system peak loads during polar vortex events.

The Company sought approval in both North Carolina and South Carolina to make two changes to existing PowerShare programs this year. First, due to lack of customer interest in PowerShare CallOption (Rider PSC), the Company gained approval in both states to close the program permanently in 2018. More recently, the Company has sought to eliminate the 50,000 kW limitation under Rider PS in order to allow customers with greater curtailable demands to participate in the program. The rider revision was approved in North Carolina and South Carolina.

Issues

No current issues.

Potential Changes

No further changes anticipated at this time.

E. Marketing Strategy

To date, marketing efforts for the Program have focused on the relationship between the Company's account executives and their assigned customers. As part of their normal contact with customers, the account executives introduce the Program, including any new options/offers, while explaining the value proposition to the customer. Account executives share in-house analytics that show the incentives for each offer as applied to the customer's specific load profile and marketing collateral to explain the details of all the Program offers.

F. Evaluation, Measurement and Verification

Results for the 2017 evaluation were provided in the 4th Quarter Collaborative Meeting. During 2017, Navigant, the evaluator, reviewed the SAS code, which determines the customer baselines, to verify recommended changes from the previous evaluation had been implemented. Also, all credits and calculations in the EPO system were verified.